SEPTEMBER 1947

Printing Equipment Engineer

Let's take a *close look* at this word-

a-vail'-able

Funk & Wagnalls* defines *available* as: *"(1) Capable of being used advantageously; usable; profitable. (2) Of adequate power for a result; effectual."*

Remember this definition the next time you are told that certain graphic arts equipment is *"available"*!

Too often the word is used loosely to denote equipment on which fairly quick delivery is exploited to the limit. After that, it becomes your problem to decide whether or not it is *"capable of being used advantageously"* or *"of adequate power for a result"*.

*Funk & Wagnalls College Standard Dictionary

In the past, temptation to take a chance—to sign up for untried and little known machinery, merely because immediate delivery was promised—we know, has been strong. Today, however, the comparatively short time remaining until the graphic arts industry can get delivery of equipment which it knows from experience to be dependable, does not justify that gamble.

May we suggest that you discuss your needs with a Harris-Seybold representative now? In the years to come, you'll be glad you waited a bit longer for Harris Presses, Seybold Cutters and other Harris-Seybold graphic arts equipment.

HARRIS-SEYBOLD

General Offices, Cleveland 5, Ohio

HARRIS PRESSES • SEYBOLD CUTTERS

OTHER GRAPHIC ARTS EQUIPMENT

"IT'S A BEAUTY"

"We find that the Premier Rotary Shaver does all that you claimed it would—turning out a large volume of stereotype work each day in various thicknesses and of good quality, and we find the finished work to be very accurate in every respect.

"So simple is its operation that each man in our stereotype department felt at ease operating it after working with it about two days.

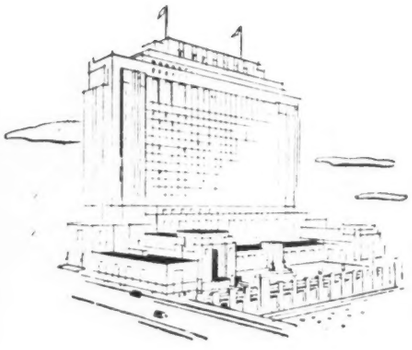
"We feel we have a machine that will give us many years of good service . . . It not only adds to the beauty of our newspaper, but to the beauty of our plant and equipment as well."

STA-HI

PREMIER ROTARY SHAVER

STA-HI CORPORATION
1020 Crocker Street
Los Angeles 21

Announcement



After September 1st the home offices of Cline Electric Mfg. Co. will be located in the Chicago Daily News Building. Address: 400 West Madison Street.

This move to new and larger quarters reflects the company's continued growth and progress along with the expansion of the publishing and printing industries it serves. During Cline's 35 years in business, the company literally has grown from a one-room office to a nationwide enterprise. Until recently offices occupied an entire floor of the Chicago Times Building. Branch offices are maintained in the New York Daily News Building and at 410 Bush Street, San Francisco.

From its new headquarters Cline will continue to furnish leading newspapers and the printing trade with the finest Press Drives, Controls, Automatic Tensions and High Speed Pasters.

—CLINE ELECTRIC MANUFACTURING CO.—

Main Office: 400 West Madison Street, Chicago 6, Illinois

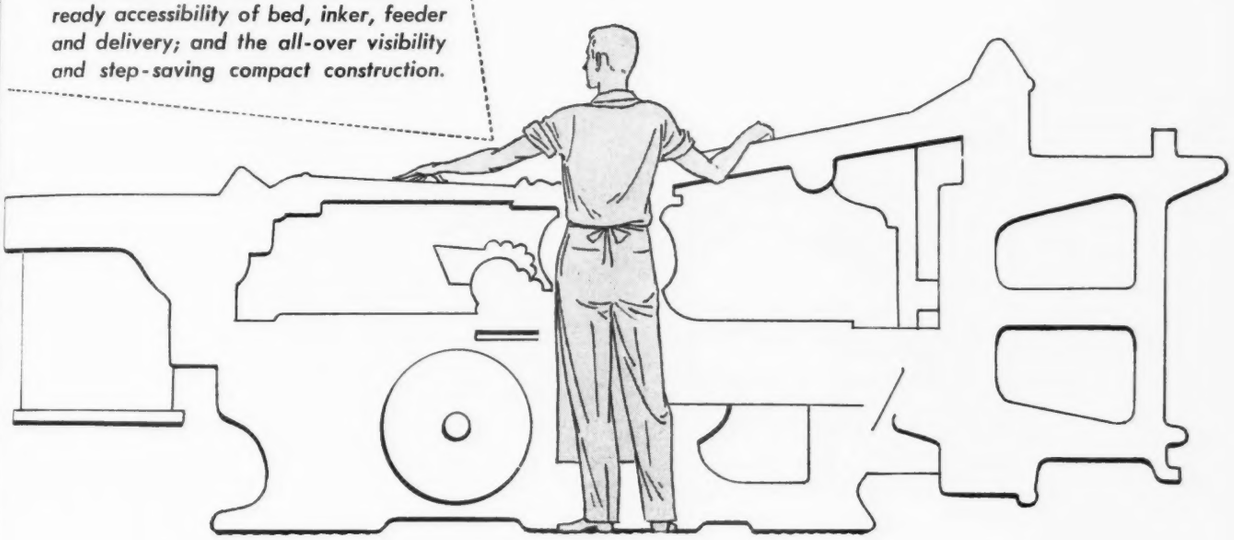
Western Office
410 Bush Street
San Francisco 8, Calif.

CLINE ELECTRIC MFG. CO. CHICAGO — QUALITY · NAME · SERVICE · FAME — CLINE SYSTEM — CLINE WESTINGHOUSE

Eastern Office
220 East 42nd Street
New York 17, N. Y.

CONTROL

Scale drawing showing man of average height (5'8" by insurance statistics) beside 27x41 Miller Major Automatic. Notice the ready accessibility of bed, inker, feeder and delivery; and the all-over visibility and step-saving compact construction.



Literally, at your finger tips.

Stand at center of a 27x41 Miller Automatic. Notice how you can look upon every operation of the press — how, with two or three steps either way, you can reach and control feeder, press and delivery. Form, sheets, inker are all within sight and control. Principal lubrication is automatic.

A stop-watch check will reveal how Miller Automatics can take up to 25% less time to set and adjust than other presses of similar sheet size. Because less time is required on adjustments, the Miller operator can pay more attention to delivering a better product.

If you want to see how compact Miller integral construction can save valuable floor space too, for your pressroom, send for a Miller Floor Plan and Layout Kit. No obligation.

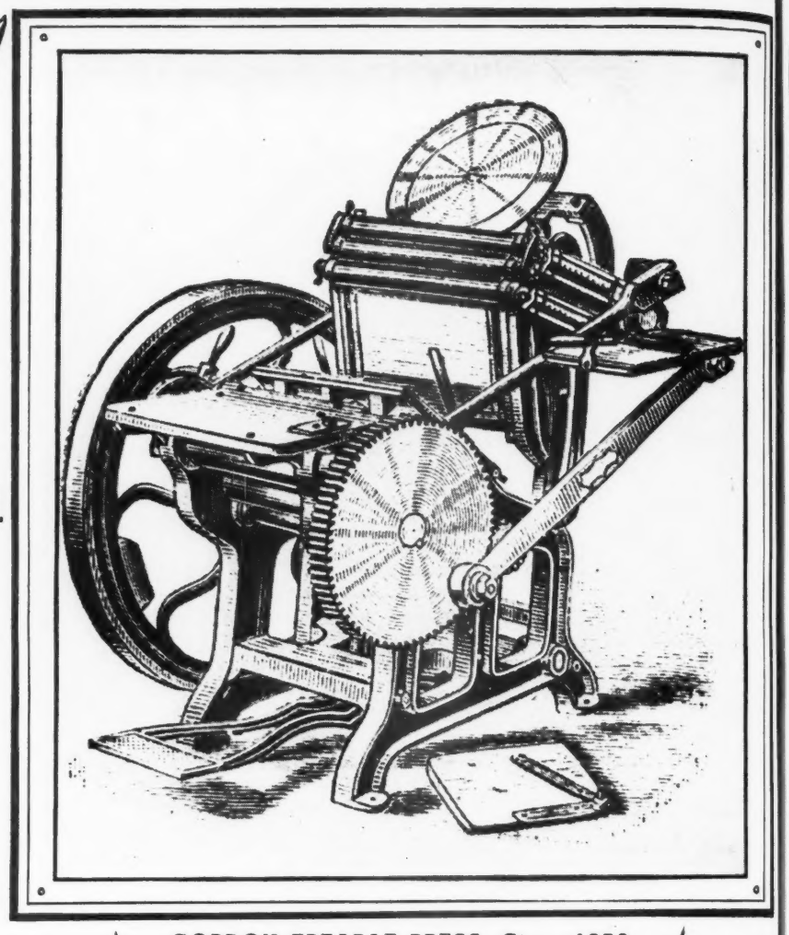
miller

MILLER PRINTING MACHINERY CO., PITTSBURGH 12, PA.

EVEN WHEN THE "GORDON" PRESS WAS THE "MARVEL OF THE AGE"

SAM'L BINGHAM'S SON MFG. CO.

rollers were helping printers do better work



GORDON TREADLE PRESS: Circa 1850

JOB PRINTING came into its own when George. R. Gordon in 1850 invented the famous "Gordon" press. Even today, his adaptation of the bed and platen principle survives in thousands of shops, where "electrified" Gordons turn out tons of small pieces.

But the first Gordon, with its treadle operation and open gears, sent a man home "whipped" at day's end. Yet, its ingenious efficiency and simplification of operation made it a true marvel of its day.

When printing was moving rapidly out of the "hand" age into the "machine" age SAM'L BINGHAM'S SON MFG. CO. was keeping pace by developing new kinds of rollers to meet the new demands.

Today, linking a century of experience with modern technical skill, SAM'L BINGHAM'S SON MFG. CO. continues to search constantly for better rollers to cut printers costs and improve their production. Through 16 conveniently located factories, SAM'L BINGHAM'S SON MFG. CO. makes available to you at all times "the right roller right away."

SAM'L BINGHAM'S SON MFG. CO.
MANUFACTURERS OF
PRINTERS' ROLLERS
LITHO-OFFSET ROLLERS

THERE'S A FACTORY NEAR YOU:

ATLANTA 3	DES MOINES 2	KALAMAZOO 12	OKLAHOMA CITY 6
CHICAGO 5	DETROIT 10	KANSAS CITY 6	PITTSBURGH 3
CLEVELAND 14	HOUSTON 6	MINNEAPOLIS 15	ST. LOUIS 2
DALLAS 1	INDIANAPOLIS 2	NASHVILLE 3	SPRINGFIELD, O.

1847-1947
ONE HUNDRED YEARS OF ROLLER MAKING

PRINTING EQUIPMENT *Engineer*

Volume 74 Number 6

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

PRINTING EQUIPMENT Engineer, Published monthly at 1276 West Third St., Cleveland 13, Ohio, Copyright 1947 by Willsea Publishing Co.

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Printed in U. S. A.

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High employee morale, and superior health standards among workers, pay substantial dividends by increasing individual efficiency in modern industrial production-eering.

When you provide wash fountains, showers, first aid facilities, cafeteria accommodations you're taking the first important step. But the next step is even more important—you must furnish an adequate and constant supply of hot water at just the right temperatures for every purpose.

Modern GAS Water Heaters fulfill every requirement for hot water for sterilizing, dishwashing, showers, industrial laundries. With Gas-fired Water Heaters you can obtain a constant supply of water at any specified temperature and in any desired quantity.

The economy, flexibility, and speed of GAS and modern Gas Water Heating Equipment have been established in hundreds of installations. Your local Gas Company Representative will aid you in selecting equipment for your needs.

AMERICAN GAS ASSOCIATION

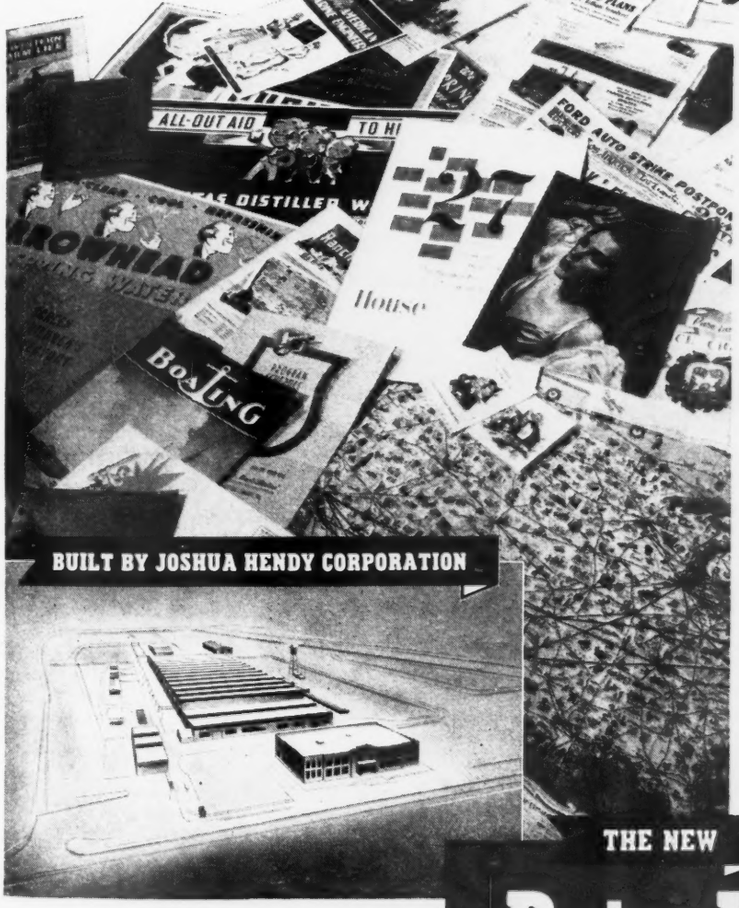
420 LEXINGTON AVENUE, NEW YORK 17, N. Y.

MORE AND MORE...

THE TREND IS TO GAS

FOR ALL VOLUME WATER HEATING

NOW 1 PRESS HANDLES ALL THESE



Here's the new lithographic press that "prints almost everything" from newspapers to letterheads and on stock from fine coated book to parchments and foils. Any number of colors you want—prints front and back, in any combination—on any stock weights from thin papers to light tag stock—and in halftone screens up to 300 line.

Imagine one in your plant—busy all the time—shifting quickly from publication runs to labels or from printing fancy box papers to catalogs. By using pre-registered plates only an hour *or less* per color is required for makeready, and in less than a minute you can change from folder delivery to receding pile delivery or rewinder. This combination of quick change and fast press runs—up to 15,000 cylinder impressions an hour—will make the DUTRO-HENDY a wise press investment.

YOU CAN ALSO PRINT: Calendars—Posters—Maps and Atlases—Store Display Material—Telephone Books—Directories—Catalogs—Tabloids—Funny Papers—Magazines and Color Inserts—Novels—Children's Books—School Books—Office Forms—Wrappers—Light Weight Packaging Materials—and all types of Direct Advertising Folders, Broadsides, Brochures, Envelope Enclosures—or whatever is required.

You're invited to attend the working demonstrations at the new $6,000,000 home of Pacific Press Inc., Los Angeles, this fall. WRITE—tell us what stocks you would like to see run. We will advise you of specific demonstration dates.

BUILT BY JOSHUA HENDY CORPORATION

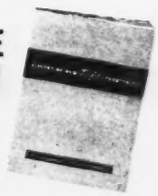
The Joshua Hendy Corporation's extensive new plant at Torrance, California, occupies over 27 acres. Here the DUTRO-HENDY Press is manufactured completely—from castings to the finished press. This organization, founded in 1856, has always been noted for the quality and craftsmanship of all products it has manufactured.

THE NEW

Dutro-Hendy

WEB OFFSET PRESS

WRITE NOW



Your copy of "A Story of Profit Opportunity" gives quick information about the new and revolutionary high-speed DUTRO-HENDY Automatic Web Offset Press and its profit making advantages in your plant.

JOSHUA HENDY CORPORATION • *601 WEST 5TH STREET* • *LOS ANGELES 13, CALIFORNIA*

KEEPING IN TOUCH

PREPARED BY INTERNATIONAL PRINTING INK DIVISION OF INTERCHEMICAL CORPORATION • SEPTEMBER, 1947

HALF-MILLION OFFSET RUNS MADE WITH NEW IPI TRI-METAL PLATE

An offset plate which lithographs press runs in the hundreds of thousands . . . without showing signs of wear . . . and with the last impressions lithographing as good as the first . . . is the latest development of the International Printing Ink Research Laboratory, New York.

The plate, known as the IPI Tri-Metal plate, is composed of 3 layers of metal—chromium, copper (the printing surface), and a base metal. The base metal, originally steel, is zinc *at present* because of the unavailability of steel for this purpose.

However, even without the additional longevity provided by a steel base, the IPI Tri-Metal plate, on commercial runs, has lithographed *600,000 maps* on which previous plates usually wore out at 50,000 impressions, *461,000 folding boxes* on which previous plates usually wore out at 25,000 impressions, *360,000 cigarette cartons* on which previous plates usually wore out at 50,000 impressions, and *540,000 labels* on which previous plates usually wore out at 100,000 impressions. *At the end of each of these runs, the image on the IPI Tri-Metal plate showed no signs of wear.*

Experimental runs with IPI Tri-Metal plates having a steel base, which better resists repeated sharp bending at the gripper clamps, have resulted in 1,750,000 impressions, 2,293,859 impressions, and 3,103,101 impressions. One steel plate was put on and taken off the press 36 times.

Equally as important as the long life of the IPI Tri-Metal plate is the fact that halftone areas maintain 100% ink-receptivity throughout the entire run, the last sheet lithographed being as clean and sharp as the first.

Copper Printing Surface Has Many Advantages

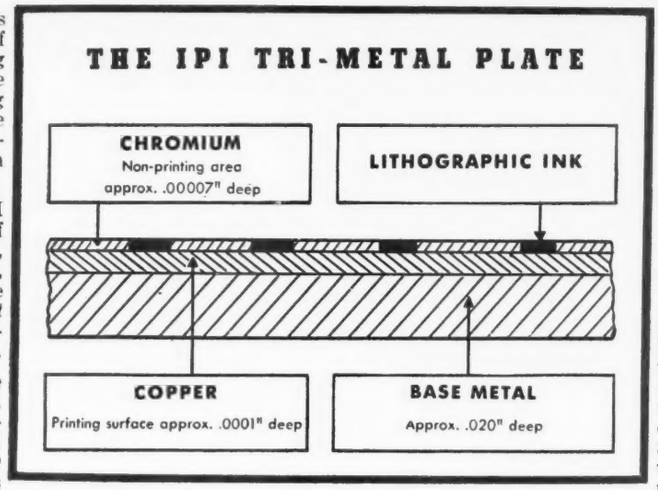
When the IPI Tri-Metal plate is processed . . . in essentially the same manner as a deep-etch plate . . . the chromium plating is removed from the design area, exposing the copper. This method makes it unnecessary for the lithographer to install metal-plating equipment for the preparation of his plates.

The advantages of copper as a printing surface are well-known to every pressman. For offset work, it has the additional advantages of being sensitive to grease, and longer-wearing than the lacquered surface of conventional deep-etch plates.

Important, too, is the fact that if the copper work area is accidentally inactivated by premature wetting with acid fountain solution, it may again be made ink-receptive . . . quickly, while the plate is on the press . . . without impairing the ink-resistance of the chromium non-printing area.

Chromium, the metal covering the non-printing area of the plate, is less sensitive to grease than other industrial metals, including aluminum.

Hence, it is advantageous in keeping non-printing areas untinted, and in securing sharper prints. Also, less water is required to keep the work clean and open, drying conditions are improved, and stronger colors are possible. Chromium has another advantage in being highly resistant to oxidation and wear.



Long Life, Less Handling Effects Operating Economies

Although the initial cost per plate of IPI Tri-Metal plates is higher than the cost of conventional deep-etch plates, overall costs are lower. On a 500,000 run in three colors on boxboard, one customer estimates he saved $1,450 in plate costs alone, not to mention additional savings in make-ready and lost press time.

The IPI Tri-Metal plate works ideally with IPI Vapolith inks under both heat-set and room-temperature drying conditions. It also works satisfactorily with conventional inks.

Although these plates are available only in limited quantities at present, inquiries will be promptly answered.

Write International Printing Ink, Division of Interchemical Corporation, Empire State Building, New York 1, N. Y.

A Few IPI Tri-Metal Plate Production Records

The numbers of impressions reported below were made in commercial plants on commercial runs. For comparison with impressions secured from conventional deep-etch plates on the same jobs, see the third paragraph on this page.

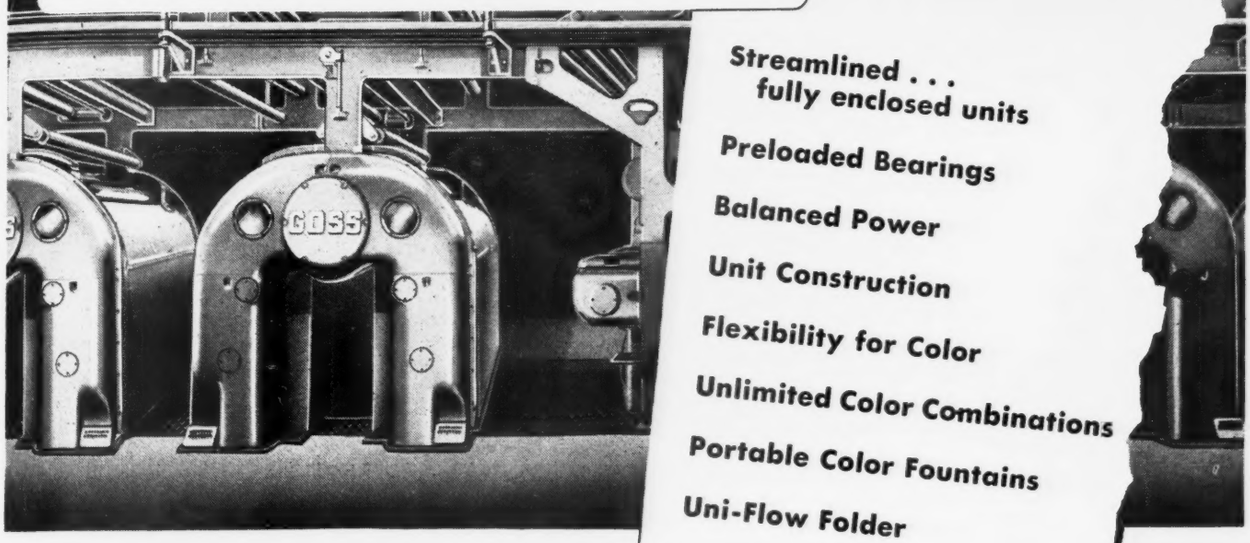
FOLDING BOXES
461,000
IMPRESSIONS

MAPS
600,000
IMPRESSIONS

LABELS
540,000
IMPRESSIONS

CIGARETTE CARTONS
360,000
IMPRESSIONS

yes . . . it's **GOSS** *again*



Streamlined . . . fully enclosed units

Preloaded Bearings

Balanced Power

Unit Construction

Flexibility for Color

Unlimited Color Combinations

Portable Color Fountains

Uni-Flow Folder

plus **Colortrol**

plus **Tension Plate Lock-Up**

You will find the answer to your printing problems

in

the GOSS HEADLINER PRESS

Whether it's speed, quality printing, additional capacity, greater color facilities, or a combination of all these—you'll find the solution to your requirements in the Goss Headliner Press.

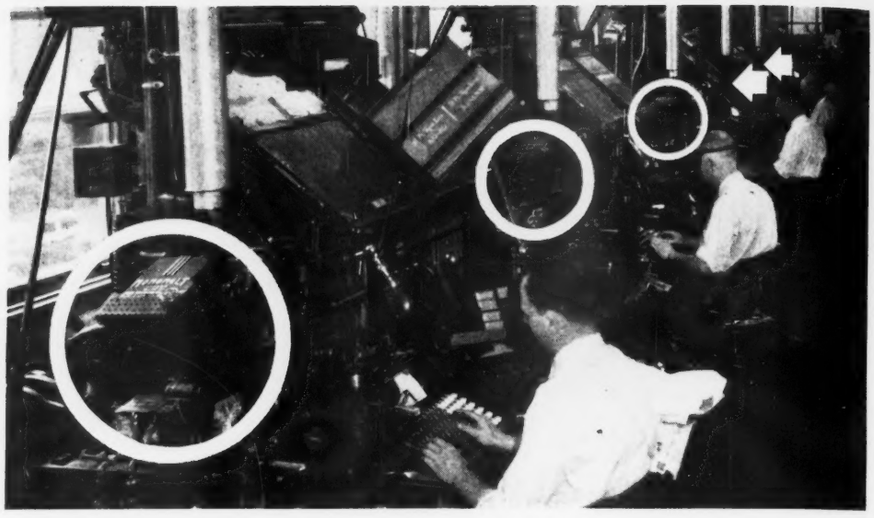
Engineered into this advanced press are all the standard features that have made "GOSS" a great name, plus innovations in design that provide for every conceivable contingency.

The Headliner has "speed to spare"—those extra thousands per hour that provide a reserve for emergency. It is equipped with pre-loaded cylinder bearings and continuous feed ink system to assure better printing, and the Uni-Flow folder to complete the production of quality newspapers. It is specifically designed to allow for future expansion. And it offers a wealth of refinements that make for improved appearance, greater safety, cleanliness, accessibility, and smooth, economical operation.

"In a World of Color," the Goss Headliner is distinguished by its pre-engineered design that permits addition of color cylinders or reversing mechanisms at any time without major alterations. R.O.P. color printing in one, two, or three colors in the maximum number of positions throughout the newspaper may be obtained by a variety of methods. Portable ink fountains, designed for use on any unit and in any position, permit running four different colors of ink on the same plate cylinder of any unit. These, plus the optional features of Colortrol and Tension Plate Lock-up make the Headliner "the press of tomorrow—today."

THE GOSS PRINTING PRESS COMPANY • 1535 South Paulina St., Chicago 8, Illinois

New York • San Francisco • Preston, England



In Ad Alley, they say...

MONOMELT Is A "MUST"

for Casting Big Display Lines

Slug-casting machines in the ad composition department "must" be equipped with MONOMELT units for normal operation when casting display types, operators declare.

With MONOMELT they can get continuous operation of machines casting large display faces . . . no need to hold up production while cold pigs melt . . . no recasting due to hollow slugs. Only MONOMELT gives slug-casting machine sufficient metal capacity for steady setting of heavy display lines.

Look at these MONOMELT Advantages

MONOMELT offers distinct advantages for both display and straight-matter machines. Eliminates furnace melting and metal pigging . . . keeps metal in machine pot at constant temperature . . . does away with squirts, fouled throats and other metal troubles . . . provides cleaner, sharper slugs.

How the MONOMELT Operates

MONOMELT, the single melting system, is made for Intertype, Linotype, Monotype, Ludlow, Elrod, and other typecasters and material makers. Dead slugs, saw trimmings and even sweepings from under the machines can be dumped directly into the MONOMELT hopper. Here it is melted and cleaned, then fed at the proper temperature directly into the machine pot. Metal handling is reduced to a mimimum; machine efficiency is increased.

WRITE TODAY for new illustrated bulletin showing how MONOMELT can help you.

THE

MONOMELT CO., Inc.

1611 N. E. POLK STREET MINNEAPOLIS 13, MINNESOTA

MORRILL

World's Largest Manufacturer of Newspaper Inks

A reliable product and dependable service go together when you order newspaper inks from MORRILL. The process of manufacture used by MORRILL assures newspaper inks of the finest quality. MORRILL'S distribution system, backed by a network of plants and service stations, permits a prompt delivery schedule. Specify inks made by MORRILL—the world's largest newspaper ink manufacturer . . . and you'll have the right inks—right on time.

GEO. H. MORRILL

GENERAL PRINTING INK DIVISION • 100 SIXTH AVENUE, NEW YORK 13, N. Y.

CHEMICAL CORPORATION

MORRILL SALES OFFICES

NEW YORK	100 SIXTH AVENUE	ST. LOUIS	1514 PINE STREET
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CHICAGO	42 N. RACINE AVENUE	SAN FRANCISCO	1425 FOLSOM STREET
DETROIT	8747 BRANDT AVENUE	LOS ANGELES	2458 HUNTER STREET
MINNEAPOLIS	708 SO. THIRD STREET	SEATTLE	3131 WESTERN AVENUE

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ALEXANDRIA, VA.	SAN FRANCISCO
CLEARING, CHICAGO, ILL.	SOUTH SAN FRANCISCO
DETROIT	SEATTLE
YOUNGSTOWN, OHIO	LOS ANGELES

NCE IN CHICAGO

. . . and now in production!

WOOD COLOR PLATE PRE-REGISTERING MACHINE

Previewed at the A.N.P.A. Mechanical Conference, and in line with the plea for economical production — WOOD's latest development demonstrated how a full set of color plates can be registered BEFORE they go on the press. This machine trims a set of plates to register — rapidly and accurately, thereby cutting costly press time.

How the Pre-Registering machine prepares plates for a semi-cylindrical stereotype press — spot and process color, standard and tabloid pages, comics, supplements — in fact, all forms of newspaper color work — this and other detailed information may be obtained by writing for the brochure "WOOD PRE-Registering Machine for Color Plates".

Wood
NEWSPAPER
MACHINERY

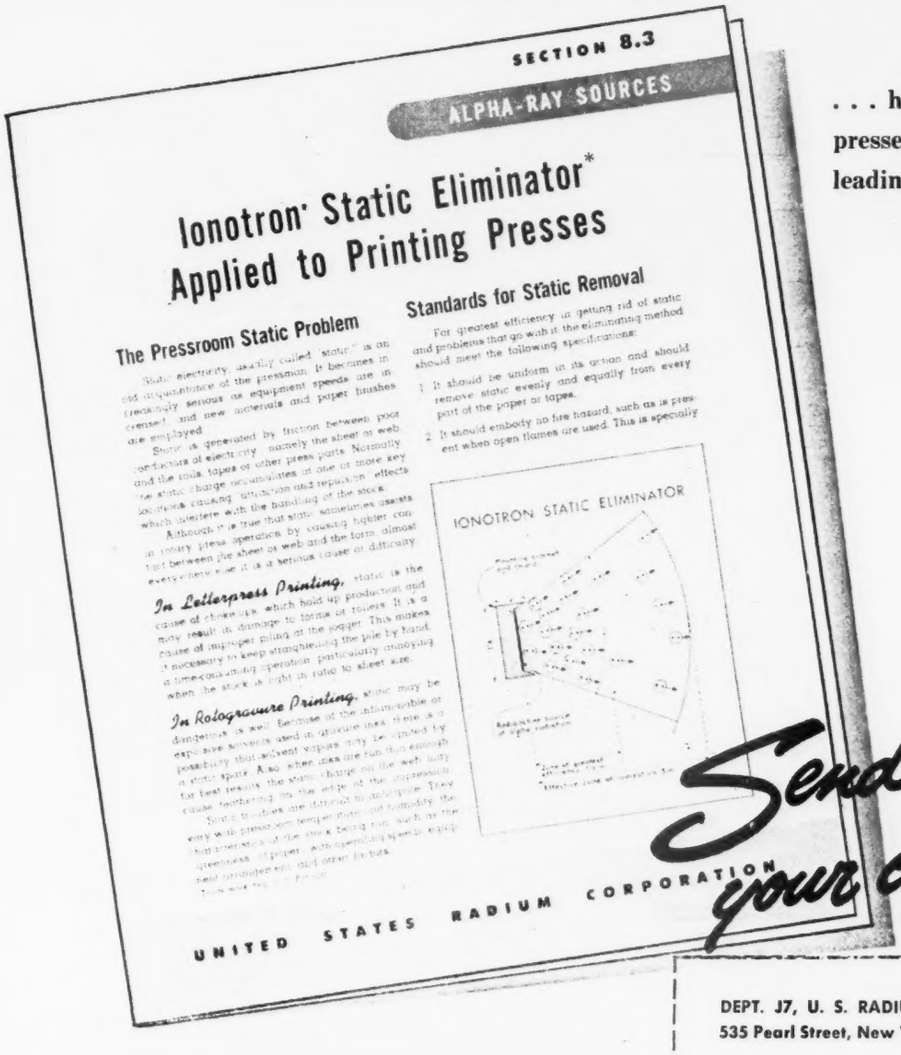
WOOD NEWSPAPER MACHINERY CORPORATION · PLAINFIELD, N. J.

Executive Offices · 501 Fifth Avenue, New York 17, New York

Get these facts

on the new way to eliminate STATIC TROUBLES!

FREE bulletin describes Ionotron Static Eliminator*


SECTION 8.3

ALPHA-RAY SOURCES

Ionotron* Static Eliminator Applied to Printing Presses

The Pressroom Static Problem

Standards for Static Removal

IONOTRON STATIC ELIMINATOR

UNITED STATES RADIUM CORPORATION

. . . how it's applied to various presses . . . what it's doing for leading printers

Send for your copy to-day!

IONOTRON

STATIC ELIMINATOR

*Trade-mark reg. U. S. Pat. Off

DEPT. J7, U. S. RADIUM CORP.
535 Pearl Street, New York 7, N. Y.

Please send me your bulletin describing use of Ionotron Static Eliminators on printing equipment.

Name_____ Title_____

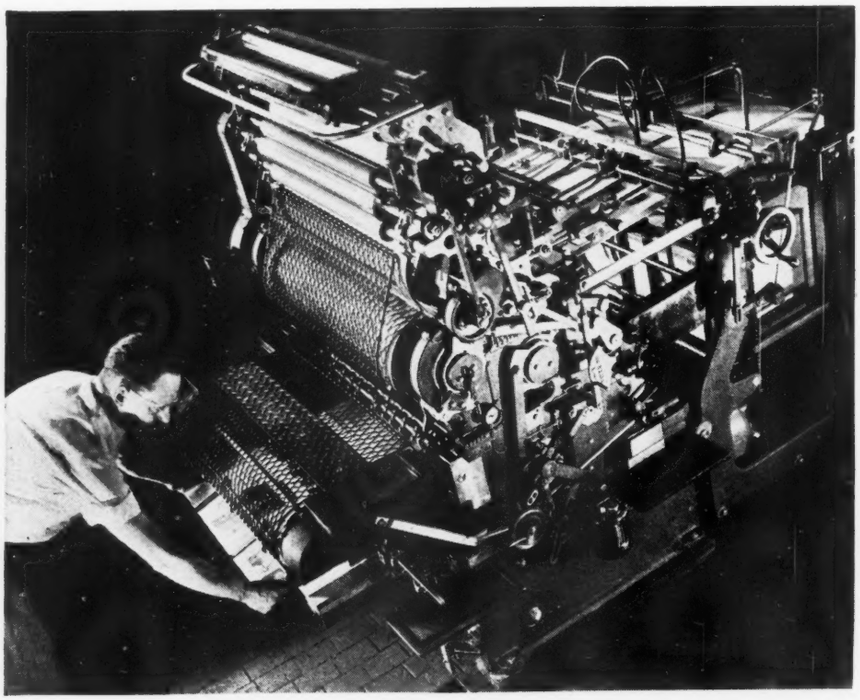
Company_____

Address_____

City_____ State_____

Now IMPROVED 10 WAYS

the New ATF BIG CHIEF OFFSET PRESS



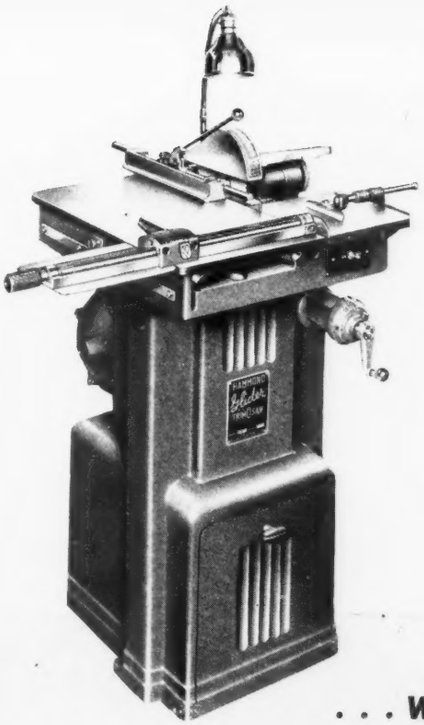
The ATF Big Chief has always been noted for its economical production of high quality work and smooth, steady operation . . . features now still more assured by nearly 600 lbs. added weight for sturdier rigidity. ATF Chief offset presses come in three sizes: 22½x29, 17½x22½, and 14x20. ATF also has modern and efficient platemaking equipment and its own precision cameras . . . everything from darkroom to pressroom.

Ask your ATF Salesman, or write for commercial samples of actual runs on the ATF Chiefs.

American Type Founders

200 Elmora Avenue, Elizabeth B, New Jersey

- **Double-loading feed board cuts stoppage time.**
- **Interchangeable ductor and distributor rollers.**
- **Ratchet-type hand crank on fountain to speed adjustments of ink flow.**
- **Steel step-plate at right of delivery, and hand rail around fountain, to aid pressman when climbing on platform.**
- **Main drive motor placed under the press saves more than 7 square feet of floor space.**
- **Gears inside cylinder are ground and all others are shaved to assure greater accuracy.**
- **Inner conveyor paper guides hinged upward for easier accessibility.**
- **Improved control of the water distribution.**
- **Spring caps and hold-downs on top clamping roller for exact setting.**
- **Hardened seats for plate adjusting set screws.**



Glider TRIMOSAW

MODEL G-4

ACTION! Get action with the Glider's ball bearing table — there's nothing like it for getting your sawing done fast and accurately. The rest of the Glider matches the ball bearing table's speed and accuracy too. Everything the operator touches is quick and easy.

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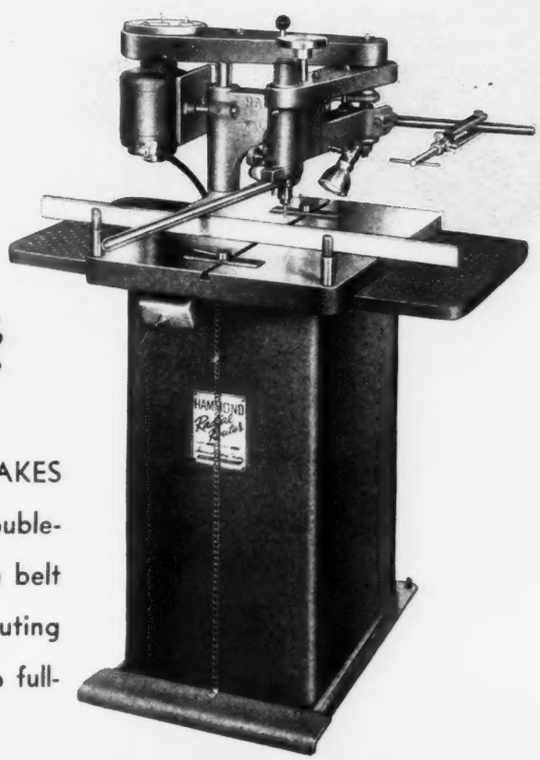

Radial Router

MODEL R-4

The Hammond Radial Router HAS WHAT IT TAKES for smooth, sensitive operation and efficient, trouble-free service. The 1/2 HP regular type motor with belt driven ball bearing spindle provides constant routing speed under all routing conditions. Handles up to full-page plates.

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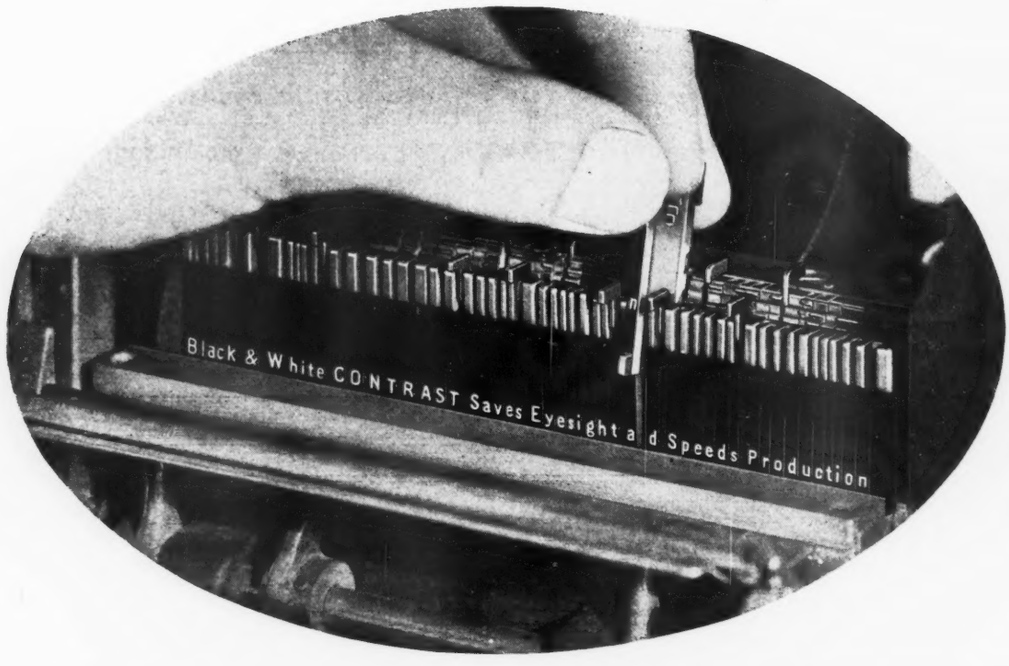
Correcting errors THIS way



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SEND FOR NEW BOOKLET which discusses the benefits now available through the optional use of Matrix Contrast Colors. It explains how distinctive colors on reference marks of different fonts help to eliminate wrong font errors and provide ease and certainty in the selection of "pi" matrices. Write today for your free copy of this new 20-page illustrated booklet which gives the latest information on the many other advantages of Matrix Contrast Service.

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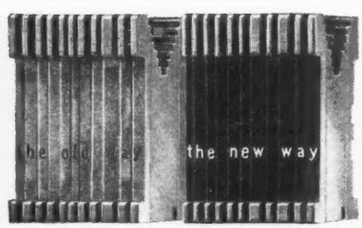


Matrix Contrast Service

View from the south of the new printing plant building for Unity School of Christianity. The building is situated on Unity Farm 17 miles southeast of Kansas City, Mo. Style of architecture is Italian Renaissance. It is constructed from pre-fabricated concrete units in soft color tones. Natural light is admitted through transluscent glass block. The building now houses all of the printing activities of Unity School of Christianity. From it flow 4 million pieces of literature a month, many of which are regular monthly publications. The production departments are on one floor.

Beautiful is the word that best indicates appearance of Italian Renaissance style building housing printing plant for Unity School of Christianity at Unity Farm, 17 miles southeast of Kansas City, Mo.

By ALEX J. ALBERG*

**Manager, Printing Department*

THE new plant of the Unity School of Christianity is now in operation at Unity Farm, situated 17 miles southeast of Kansas City, Mo. The new printing building is Italian Renaissance in style and contains 40,000 sq. ft. of floor space. With the exception of a storage room and tunnel, the printing plant is on one floor. The 10 ft. wide tunnel extends the full length of the pressroom. It carries service equipment to the presses and other pieces of machinery.

Spread over 1300 acres of rolling countryside is Unity Farm. Here are to be found 200 acres of orchards, a modern dairy with its own homogenizing and ice cream making equipment. There is a 20 acre lake furnishing water for all of Unity Farm. Recreational facilities include a picturesque swimming pool, a 9 hole golf course, picnic grounds and cottages.

Unity prints 4 million pieces of literature a month—48 million a year—all on book paper, and many of the products such as magazines are in color. It produces four monthly magazines—*Unity, Daily Word, Progress* and *Good Business*, in addition to *Weekly Unity*, leaflets and pamphlets and a bi-monthly magazine entitled *El Sembrador* (*The Sower*) in Spanish for distribution in Latin-American countries.

The printing plant uses 90 T. of paper a month, partly for books, and pays postage on 104,000 lbs. of second class mail matter a month,

There are now 95 workers in the printing plant alone. Despite the labor-saving equipment introduced as quickly as it is perfected, the number of plant employees keeps moving upwardly as the demand for Unity publications expands.

Features of Building

There is summer and winter air conditioning with humidity automatically maintained at a degree suitable to good printing and good health. There is an electronic precipitator through which the air is drawn, collecting all particles of dust and pollen.

The lighting comes through windows of the glass block type to overcome condensation, and artificial lighting from rows of fluorescent lights spaced 14 ft. apart. An automatic electric eye regulates the amount of light in the building day and night. There are no posts or pillars throughout the production departments' floor space.

Pre-fabricated Structure

As has been stated above, the building is an ultra-modern structure in the form of a capital T, with the stem of the letter (the pressroom) running north and south and the crossings running east and west. The exterior of the building is of the Italian Renaissance type. This style of architecture is used generally at Unity Farm. The feature that marks its construction as modern is that it is prefabricated from concrete slabs.

First the floor was laid with concrete. No effort was made to smooth the top surface when laid. Later on, it was sanded to a uniform surface. Wall slabs, pillars and ornamental works were cast in forms. When all of the separate pieces were ready derricks were set up on the Farm and the building parts were transferred by specially built trucks and hoisted into place.

Manager of the Farm, W. Rickert Fillmore, stated that roofs for the buildings compose another matter. He has a method for handling them. The long fabricated girders that span the walls of the printing building are welded at the farm, lifted into place and are then locked. The same type of insulation that bars heat and cold in the walls is employed in the roofing.

Originally, the trim for all structures at the farm was the honey-colored limestone hewn from quarries within sight. Fillmore, however, developed a quicker method for meeting such needs. The slabs are cast of concrete to size, with clay set into the molds to give the porous effect of natural limestone. When the cast is removed from the form the clay is washed away with water. Color added to the concrete mix produced the required shade.

Mechanical Departments

The composing room occupies the lower left "serif" of the capital T building layout. Floor space here is 60 ft. wide by 125 ft. long.

At the lower right "serif" of the capital T there will be a stock and cutting department of the same size as the composing room.

The pressroom which occupies the stem of the capital T layout (as will be

seen in the accompanying diagrams) is 60 ft. wide and 182 ft. long—it's one sweep of concrete floor without overhead pipes, wire or conduit. All of these run into the structure through the tunnel and emerge from the floor where their use is required.

Mailing and Shipping Facilities

All of Unity's mail is transported by truck to the Lee's Summitt postoffice. This postoffice is about 5 miles from the printing plant. Here it is sorted and shipped by train to various destinations all over the world.

The materials, such as paper, ink and other supplies used in the Unity printing plant are shipped by freight and are delivered to a siding on Unity Farm about ⅛ mi. from the printing plant. There is an unloading dock at the railroad from which the incoming materials are trucked to the building.

Moving the Equipment

Readers of *Printing Equipment Engineer* will be interested in how we moved the equipment from the old plant in Kansas City to the new one 17 miles southeast of Kansas City to Unity Farm. The moving had to be done without interrupting printing production in any way.

One of the problems encountered was how to thoroughly clean up the machinery before erecting it in the new location. It was finally decided to dismantle each piece of equipment in the old plant and transport it (accumulated "use dirt" and all) to the Farm.

We used low-swung tow trucks to transport the press parts, frames, and the like. The services of machinists and strong-backed laborers were also required to move the line-composing machines, presses, folders, cutters and trimmers, binders, mailing machines and other equipment essential to a printing and publishing plant.

When the equipment arrived at the new plant, it was delivered to a large wooden platform set up outside the building. Here each piece of the dismantled machinery was given a thorough cleaning and repainting.

To clean the machines of accumulated dirt and ink, we purchased a Kerrick steam-cleaning machine. This is the type of machine used in cleaning automobile engines and chassis, and during the war was used to clean the cosmoline off rifles

Views in plant of Unity School of Christianity's New Plant

1—Entrance lobby is ornate but the lighting is indirect and subdued. A receptionist greets you as you enter.

2—View of composing room. Equipment is spaced to give freedom of workers' movement.

3—The pressroom, as is the case with the other mechanical departments, is well lighted. There's plenty of room to bring in new stock and remove printed stock.

4—A view of the bindery. As is the case with the other mechanical departments, you'll agree this is a well-lighted department. It's air-conditioned, too.

Shown here is Alex J. Alberg with his secretary in Alberg's office which is just off the lobby in new printing plant of Unity School of Christianity, Unity Farm, 17 miles southeast of Kansas City, Mo. Mr. Alberg is Manager of Unity's Printing Department which occupies the entire building.

and guns for the military service. We found this cleaning method efficient since it saved considerable time and reduced the cost tremendously. It removed the ink and dirt down to the casting surfaces. Thus, when the machines were erected, they were practically as clean as when new. We painted the machines a green-grey color which gives the machinery a pleasing appearance.

Equipment Moving Schedule

A memorandum about the dismantling, moving, cleaning, repainting and erection of equipment will be of interest to mechanical and production executives who may encounter a similar problem. It is hardly necessary to state that in a move of this kind, it is essential that the planning be done in such manner that production in the plant will be adhered to and also that the moving will be done in the allotted time.

April 7 to April 28—We started moving operations on April 7 by dismantling the 5/0 Miehle Perfecting press and moving it by truck, as described above, 17 miles southeast of Kansas City to Unity Farm. Three truck loads were required. Assembling the press was started April 22. On April 28 we started printing the July issue of *Unity* magazine, a monthly publication.

April 23 to April 28—We started dismantling the Miehle 5/0 Special press and started erecting this press on April 28. On the 28th of April we also moved two folders to the new plant to process the printed matter coming off the 5/0 Special press.

May 5 to May 16—We started dismantling the Miehle 0/2-color press and moved it to the Farm on May 6 and 7 Erection was completed May 16. We started printing the August issue of *Daily Word* on May 23.

May 19 to June 9—On May 19, the dismantling of the 6/0–2-color Miehle Press was started. Hauling and erection were finished on June 9. On June 18, the printing of the August issue of *Progress* was started.

June 2 to June 7—Moving of two Dexter folders was started on June 2, both of which were running again in the new location within a few days. On June 2 we started dismantling the 56 in. Harris-Seybold cutting machine, moved it to the new plant by truck and had it in operation by June 7. While the cutting machine was dismantled it was overhauled. It is now in excellent condition.

June 3 to June 9—On June 3 the Miehle Vertical, 12 in. by 18 in. Kluge, and the 10 in. by 15 in. Chandler & Price presses were moved. They were cleaned up at the farm and were put into operation by June 9.

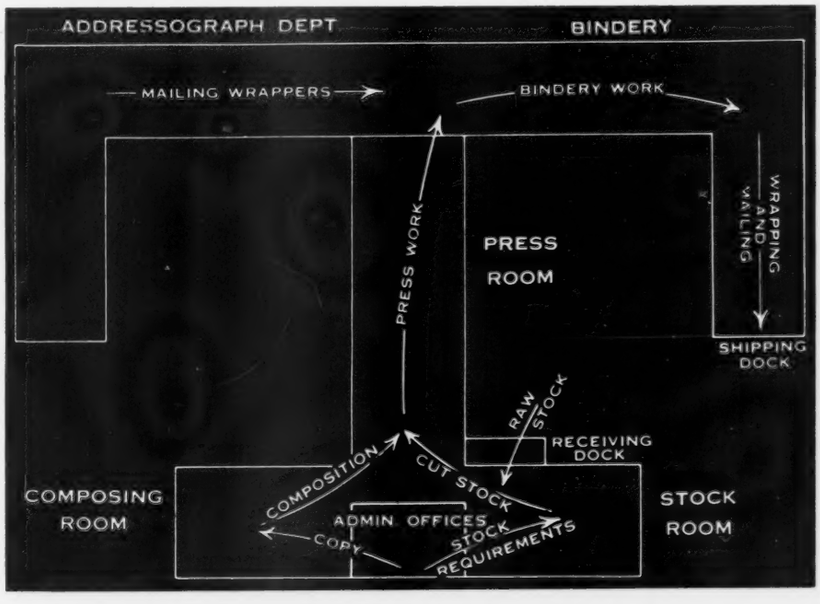
June 9 to June 13—We dismantled the No. 1 Miehle and moved it to the Farm; erection was started and finished by June 13. On June 25 the running of *Weekly Unity* was started.

June 11 to June 13—On these dates the Intertype line-composing machines, the Ludlow and Elrod equipment, the Hammond saw-trimmers, the steel imposing tables and the balance of the composing room equipment (including the proofreading department) were moved.

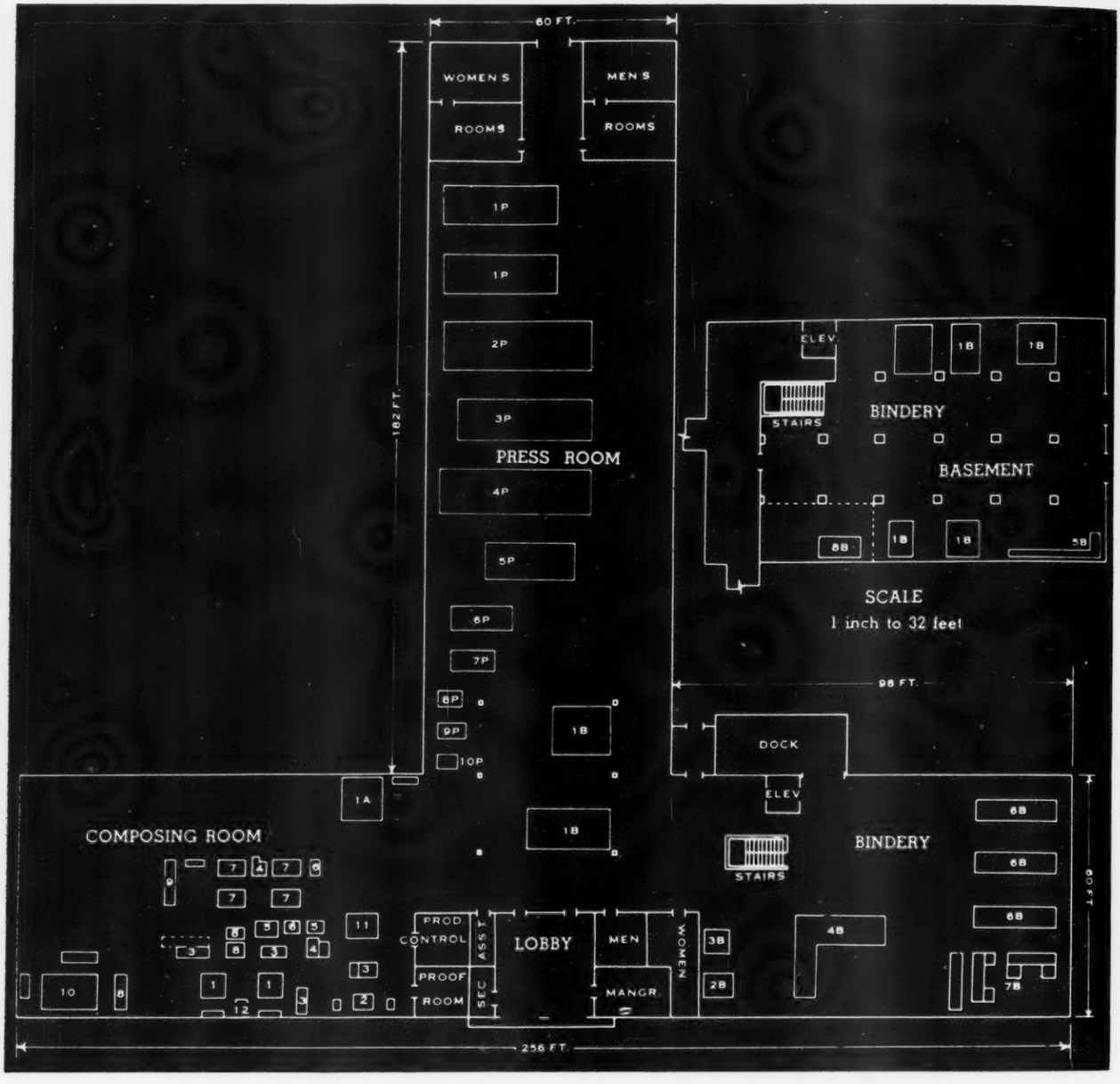
June 13 to June 20—On June 13 the Christensen stitcher and the Cleveland folder were moved. On June 16, the Harris-Seybold 17 in. by 22 in. offset press and the Miehle Horizontal were moved. These machines were running production-wise on June 20.

June 20—On this date the office equipment was moved, including establishment in the new location of the Manager of the Printing Department, his Secretary and the Office Girl. Simultaneously, the Layout and the Production Control Department was moved.

June 25 to July 12—On June 25, the Sheridan Inserter and Gatherer and



Workflow Diagram—Above diagram indicates eventual arrangement of the equipment in the plant of the Unity School of Christianity's new plant on Unity Farm near Kansas City, Mo. This is a clear-cut example of straight-line production flow even though it has been integrated in the capital letter T floor space plan.



The new printing plant of the Unity School of Christianity is situated at Unity Farm, 17 miles southeast of Kansas City, Mo. The floor area of the building is laid out like a capital letter T. In this diagram are shown the mechanical departments as they are utilized at present. Future layout (in which the stock and bindery departments will be changed) are shown in the accompanying workflow diagram. In this diagram are shown the three mechanical departments, as follows:

COMPOSING ROOM

1—Intertype machines
2—Ludlow machine and Elrod
3—Makeup banks
4—Hammond saw-trimmers
5—Material storage
6—Galley storage
7—Imposing tables
8—Proof presses
9—Hand-set type cabinets
10—Pre-makeready department
11—Register table
12—Intertype magazine storage
12—Stock cutter

PRESSROOM

1P—Miehle 5/0 special presses
2P—Miehle 5/0 perfector press
3P—Miehle 0 two-color press
4P—Miehle 6/0 two-color press
5P—No. 1 Miehle press
6P—Miehle horizontal press
7P—Harris 17 in. by 22 in. offset press
8P—Miehle vertical press
9P—Kluge job press
10P—Chandler & Price job press

BINDERY

1B—Folders
2B—Three-knife hook trimmer
3B—Stock cutter
4B—Sheridan Inserter-stitcher-trimmer
5B—Christensen gatherer and stitcher
6B—Mailing tables
7B—Mailing wrapper inspectors' desks
8B—Waste paper baler

Stitcher, the Cleveland Folder and the 32 in. Harris-Seybold Cutting Machine were moved. All of this equipment was in operation by July 12.

June 26—All of the Mailing Tables and other Bindery equipment was moved and set up.

July 1—The entire printing plant was in full operation by July 1. The first load of mail was taken to the Lee's Summitt postoffice on July 1.

Elective Officers, Board of Governors, International Association of Printing House Craftsmen — (Left to right, front row): Immediate Past President Wm. H. (Bud) Griffin; Griffin Bros., San Francisco; President, A. Gordon Ruiter, Superintendent, Forbes Litho, Boston; First Vice President, Gradie Oakes, Process Color Plate Co., Chicago. (Second Row, left to right): Treasurer Edward T. Samuel, Samuel & Walker, Cleveland; Executive Secretary, Pearl E. Oldt, Cincinnati, O.; Second Vice President, Russell J. Hogan, Plant Manager, The Blanchard Press, New York; Third Vice President, Fred Baillie, Canadian Banknote Co., Ottawa, Can.

XXVIIIth *Convention*

of International Association of Printing House Craftsmen held at Saratoga Springs, New York — Approximately 700 registered—Sessions devoted to topics designed to be of assistance to local clubs

By ADAM HENRI REISER

THE twenty-eighth convention of the International Association of Printing House Craftsmen was distinguished by the quantity of program material designed to be helpful to the 70-odd local clubs. A number of speakers related their clubs' experiences in observance of Printing Week in various parts of the country. Usually, the International Conventions are devoted almost wholly to technical and technological discussion. This year, however, only two sessions were held in which equipment and processes were discussed.

The 1947 convention was held at Saratoga Springs, New York, on Aug. 31 and September 1, 2 and 3. Approximately 700 people were registered. While not as large a convention as some which have been held in the past, all Craftsmen and their ladies seemed to feel a closer association than usual just because of the smaller attendance. The usual progression of elective officers occurred. A. Gordon Ruiter, Superintendent of the Forbes Lithograph Co., Boston, was advanced to the office of President. Gradie Oakes, President of Process Color Plate Co., Chicago, and Russell J. Hogan, Plant Manager, the Blanchard Press, New York, respectively were advanced from second and third to first and second vice presidents. Fred Baillie, of the Ottawa (Can.) Club, was elected third vice president by close margin over Alex J. Alberg, Manager, Printing Dept., Unity School of Christianity, Kansas City Mo. Cleveland was selected as the 1948 convention meeting place.

The Program

As is its usual custom, *Printing Equipment Engineer* is reporting only those sections of the entire program which are of immediate technical interest to its readers, including Printing Week Observance, in which every local Craftsmen's Club is likely to participate annually.

Printing Week Observance

After the opening ceremonies and officers' reports had been disposed of on Monday morning, President Griffin turned the meeting over to Gordon Holmquist, Chairman of the Public Relations Commission. The formal opening of the convention occurred Sunday night. Mr. Holmquist first gave a resume of the origin and inception of Printing Week observance under encouragement by the International Association.

Holmquist explained that it was the International's objective to promote Printing Week throughout the country during the week of Franklin's birthday (January 12 to 17) by local Craftsmen's clubs under the auspices of the International Association. The observance of Printing Week is of a civic nature rather than that of being purely a Craftsmen's objective. He said his commission started selling the idea as an industrialized movement. All organizations, including

HUMANICS IN PRINTING

A BELIEVER in research, Ralph L. Lee, General Motors Corporation, Detroit, explored the field of employee-management relations under his heading of *Humanics in Printing*. His address was the highlight of the Craftsmen's Convention in Saratoga Springs, N. Y., recently.

Lee stated that research was coming into its own, that we are searching around for facts. But while we have developed instruments of all sorts, instruments for measuring colors, instruments for measuring the finest of hair, there has not been an instrument devised for measuring the thin-skinnedness or the thick-headedness, or the fusing point of the human element. Yet, said Lee, in all his travel through scientific laboratories, he has not encountered a "Humanometer."

People have all sorts of hobbies. Ralph Lee has made a hobby of collecting facts about how people act in relation to each other. For it is his belief that we are not in the printing business, nor in the automobile business, nor in any business other than "people business;" and he has collected these four important facts about people:

(1) Most important of all: Every one of us is different, and we are the only one of our kind in the world. There are the bully, the smarty, the smoothy, the cry baby, the clown, the trouble-maker, the tattletale, the gabber, the ants-in-the-pants, the sphinx and a number of other types. They are all constructed of different material, just as are glass, lead, steel, and clay. To use them you have to know their limitations.

(2) Most people are what they are because they can't change as much as they would like to or we would like to have them changed. The best leaders spend most of their time studying the composition of the individual, and then finding a place where they can use them instead of trying to change the composition of the individual, or changing lead to gold.

(3) No one individual is the same all of the time. There is no set of rules, nor is there any set pattern to follow in the treatment of the individual for regular results.

(4) Every one is proud of being different.

"There is no short cut to handling men successfully, nor is there a tailor-made plan." Ralph Lee stressed that employee relations was the sum of man to man relationship, person to person treatment from the lowest person in the organization to that of the president. There must be a close relationship with each individual, and not as a group. The desirable aim is to work to the end of making every one who comes into our presence feel comfortably themselves. How the employees yield toward management is only expressed in terms of, or, in relation to how management yields towards employees.

This feeling of good will is procured only with a mutual understanding and a respect for the changeable characteristics: respect for the four factors Lee enumerated above. Lee said it could not be gotten by retirement plans, contracts, legislation, lunches, or tiled washrooms.

employer groups, teachers' associations, unions and advertising clubs were contacted. In 1946, said he, 16 Craftsmen's Clubs promoted Printing Week. He was happy to report that in 1947 41 clubs observed Printing Week. This year he hopes all 71 local Craftsmen's Clubs will promote observance.

Dempsey Describes Boston Observance

He introduced Addis W. Dempsey, Vice President of Donovan & Sullivan Engraving Co., Boston. Mr. Dempsey spoke on the subject *Printing Promotes Progress*. In his discussion, Mr. Dempsey described in detail how Printing Week observance was conducted in Boston in January 1947. In July, a meeting was held by the presidents of the four most active Graphic Arts organizations. These presidents represented a membership of about 1200. It was decided to conduct a Printing and Publishing Week celebration and combine the various January meetings into one huge dinner during the week. Each club appropriated $50 to make up an underwriting fund of $200 Mr. Dempsey was selected chairman of the observance.

Objectives were as follows: (1) To promote harmony and co-operative effort among the sponsor organizations and others in the printing and publishing industry for the betterment of understanding and advancement of the entire Graphic Arts industry in all its phases. (2) To better acquaint the general public with our industry—its importance in industrial ways, in community, city and state life—its size—number of people it employs, and the like.

The other New England Clubs of Printing House Craftsmen, the advertising Club of Boston and all the other organizations in the Graphic Arts industry were asked to co-sponsor the affair. To broaden the scope, the various civic and sectional industrial groups such as the New England Council, Associated Industries of Massachusetts, Massachusetts Press Association, Boston Chamber of Commerce, etc., were also asked to co-sponsor the affair and promote it to their members.

Because public relations was to play such a large part in the program the publicity committee commenced work at once. The committee was headed by the president of a Boston advertising agency. The educational committee was headed by the president of a textbook publishing house. Speakers were selected for their prominence and their abilities.

Publicity was fed to the newspapers immediately after Christmas in the form of news release sheets. Photos of various individuals and events accompanied the releases pertaining to them. Newspapers covered events of the week, in addition to assistance extended by the Graphic Arts group sponsoring the observance. There were over 350 column inches published in the Boston papers.

The trade press assisted greatly. The editors-in-chief of high school magazines were invited to go by special buses on a full day's tour of the industry. They were also invited to the luncheon and meeting. *New England Editor and Publisher* sponsored a prize contest for the best editorial published in school papers. Exhibits and window displays were arranged for. In Filene's store alone it was estimated that 150,000 people saw its window each day. Six hundred street cars carried posters. Radio stations plugged the observance in news flashes and other radio programs.

The printing and Publishing dinner had an attendance of over 800.

Linotype slugs carrying the adopted slogan "Printing Promotes Progress." were presented as keepsakes.

In addition, addresses were given before the trade schools by successful young printing executives.

Mr. Dempsey, stated that in order to avoid any complication of slugging people into advertising to support it, or turning out a poorly executed one, it was decided to do without a printed program.

As the result of several economies, the committee's expenses were kept to a bare minimum. Fortunately, the money received was sufficient to pay all incurred expenses. The original underwriting funds of the four sponsoring organizations, amounting to $50 each, were paid in full. A balance of $44 is in the treasury to start the 1948 campaign.

Alberg Relates K. C. Printing Week Observance

Alex Alberg, Manager, The Printing Department, Unity School of Christianity, Kansas City, Mo., spoke upon the subject, *The Importance of Participation*. He stressed that member participation makes for a healthy condition in the small club. He stated that the Club President and Board Members must be enthusiastic. In Kansas City his committee enlisted the support of The Young Printing Executives, The Advertising Club, and the Graphic Arts Organization. The com-

mittee asked for suggestions of other organizations. They enlisted the cooperation of civic officials. Displays related to the different printing processes were exhibited. Advertisements were printed in the local papers. These advertisements cost money, but produce a wonderful result.

Sorace Discusses Franklin

What We Think Printing Week Can Do. was the subject discussed by Joseph F. Sorace, Chairman, Printing Education Week of the National Graphic Arts Educational Association, Rochester, Institute of Technology, Rochester, N. Y. Professor Sorace gave an inspirational talk concerning the life of Benjamin Franklin, Printer. He said, "Let us encourage youth to embrace the Graphic Arts Profession for technological advancement, for a creative and challenging art, and for a rugged and individualistic career". Professor Sorace suggested Franklin pageants, skits, radio broadcases or plays, church services, boy scouts, museums, libraries, civic service and craftsmen clubs, trade and newspapers, to participate fully in every way possible to display exhibits, addresses, cinemas, meetings and open house. In this manner can printing education and education through printing achieve typographic pre-eminence, moral evaluations, and social responsibility.

Chairman Holmquist, at the request of Educational Chairman Winkler, enumerated some of the items whereby the International Public Relations Commission had planned to pass along to local clubs (1) Special gummed stamps to attach to stationery and envelopes; (2) National newspaper editorials; (3) Arrange a definite plan of procedure for the National Graphic Arts Association, and the Printing Industry of America; (4) Prepare letters for local organization; (5) Write all headquarters of Rotary and other national clubs; (6) Revise and reissue the Manual of Procedures; (7) Invite equipment manufacturers wherever possible to furnish new presses and have them in actual operation for window displays during Printing Week.

Training and Selection of Apprentices

Chester Morey, of the Apprentice Training Service, Department of Labor, Boston, Mass., spoke on, *The Testing and Selection of Apprentices.* Calling this a difficult topic, Mr. Morey declared that the purposes of testing and training and selecting apprentices are that of carrying on the trade in as efficient a manner as we have heretofore. The value of well-trained craftsmen is readily recognized. There are years of training necessary to develop a young man to become this well-trained craftsman. In general, there is more thought given to the selection of mechanics than that to the selection of applicants for apprenticeship.

It was Mr. Morey's opinion that tests furnish the most reliable source of information on the ability, aptitude, in fact all the needs of the industry: Tests that measure traits that are invisible have been devised. These tests, important tools, measure the carefulness of the applicant, the dexterity of the hands and fingers, the patience, the mechanical inclination, the ability to provide proper judgement among other things. Tests showing these traits are called, Aptitude Test; Vocational Interest Test, Intelligence Test and the Test for Care, Judgement, etc.

Detailing the type of questioning given under the tests, Morey stressed the fact that persons having seen the test papers and questions are impressed with their cleverness. The score attained by the candidate shows how he rates compared with 9000 people used as a control. In response to questions Morey told of tests worked out to expose introverts or extroverts, such as the Burnreiter test which indicates whether the candidate would be happier working with others or by himself.

Pointing out the selection of apprentices to be an important factor for industry, Morey stressed the need for it in relationship to the individual as well. It will make the individual happier in his job and thus affect his general outlook on life and thus secure for him the objectives of Good Government, the objectives of Life Liberty and the Pursuit of Happiness.

"No two people are alike—no one individual is the same all the time. I am glad there is only one Ralph Lee in all the world," declared Dr. Ralph L. Lee before the Saratoga Springs convention of the International Craftsmen's Association on September 2. Working before an ornately gold-framed splendiferously painted background, Dr. Lee discussed *Humanics in Printing*.

A consummate actor, Lee is at the same time a dynamic speaker. He said: "We are safe in saying that were it not for the micrometer interchangeable machine parts would be impossible, specialization impracticable and our manufacturing institutions would be wholly improbable . . . So far as I know, no one yet has invented a Humanometer with which to measure the human characteristics, the breadth, strength, hardness, elasticity, crystallization and boiling points of the individuals who compose our . . . organizations."

Apprentice Training

"The primary purpose of the print shop is to print and not to preach or to teach," said S. Preston Hipsley, Director of Personnel, Government Printing Office in Washington, D. C., in his talk on *Apprentice Training.* Realizing that "sell at a profit" makes the mare go 'round. Hipsley declared that no one type of training will fit all organizations. The type will depend upon many factors. The balance sheet, the size of the shop, the type of work produced, will be among the factors that will determine what training and by whom this training is to be given. In general, it must be agreed that the apprentice must get some production experience on all operations required in the trade in order to be able to get a well rounded production experience. It is also generally agreed that at present this production experience is based on a four to six year absorption period.

The order of supplying this training must be on the basis of learning difficulty where the theory or trade knowledge is concerned and in the order of going difficulty where the operational training takes place. The one best way of accom-

Richard W. Gardner, Graphic Arts Sales Div., Eastman Kodak Co., addressed Craftsmen upon the subject *Color in the Reproductive Arts*.

plishing this is by almost simultaneous application of the knowledge acquired.

Hipsley pointed out that in the five-year program just completed at the Government Printing Office, 13% of the time was given to formal study of theory and practice in the school while the balance of the time was spent in the production department. As to whether the foreman should act as instructor to the apprentice, Hipsley stressed the role of production responsibility born by the foreman. Training becomes secondary and therefore not a real function of the foreman. The best instruction possible should be given in a separate part of the shop if possible.

Closing his talk with the statement that the Government uses the school for a research laboratory for tests, Hipsley expressed the thought that the results may be made available to the Printing House Craftsmen and the Printing Industry in the near future thus proving again the value of the slogan, "Share Your Knowledge".

Printing Education

Laurance B. Siegfried, Syracuse University, in his talk on *Printing Education* started by telling of a survey conducted in printing shops around Boston. This showed that the average age of pressmen was 51.6 years while that of the assistant was 46.1 years. Noting the older heads of executives present he asked them when they were going to bring along the younger men in industry as executives as well as practical workers.

The lack of education is the reason for the printing industry lagging behind, asserted Siegfried. He asked what the Graphic Arts industries are doing to work with the schools of the land to develop their industry, and then told what the colleges are offering in the way of education for the Graphic Arts field.

Carnegie Institute offers a well-rounded course in practice and theory in a four-year degree course to a Bachelor of Arts in Printing. The purpose of the course is to provide the student with the ability to enable him to fill a junior executive job.

Rochester Institute has a two-year certificate course with an optional third year, the emphasis being on the technical side.

The School of Journalism at Syracuse has a Graphic Arts Department that takes the student in his sophomore year through an introduction to the Graphic Arts, giving him a general survey as a preparation for other courses. Advertising, Magazine Production, Typographic Layout, Photography for the Press, and Printing Design are some of the subjects for his selection. Here is a sincere effort to train people with whom you will have to work as buyers of your printing.

There are others such as the New York Employing Printers where Russ Hogan is doing such an admirable job with Irving Simon and others, giving evening courses to people in the advertising fields. An immediate need for about six more schools is felt, for the great demand cannot be met by present existing schools.

Calling upon other printing associations to do more, Siegfried asked them to work out some blanket scheme to do the job of education that the Graphic Arts so sorely needs.

Club Management Clinic

On Monday evening, Sept. 1, the Club Management Dinner, immediately followed by speakers from clubs in several parts of the country, occurred in the main dining room of the Grand Union Hotel. Russell J. Hogan, International Third Vice President, and Plant Manager of the Blanchard Press, New York, presided as chairman.

Lambert Discusses Club Programs

The first speaker called upon by Chairman Hogan was Roland L. Lambert, President of the Indianapolis Club of Printing House Craftsmen. The title of Lambert's talk was *Club Programs*. He stressed the necessity for the program chairman having a well-rounded and diversified view of the Graphic Arts. He should be receptive to ideas from other Craftsmen in the club. He mentioned that Craftsmen should take advantage of the Bulletin Exchange Directory edited by John Cobb. He enumerated the educational films that are available for program use. During the war the immediate Indianapolis locale was combed for program speaking talent. Plant visitations were arranged. He also mentioned a number of non-printing speaking programs which were arranged for.

Mr. Lambert listed the little courtesies which should be extended by the host club to the speaker, such as sending copy of the local club bulletin, reservation of a hotel room to be paid for by the host club, escort service while the speaker is in the city and a letter of appreciation to be sent the speaker to his home address. The securing of biographical material and portrait of the speaker for promotional purposes should be secured well in advance of the speaking engagement.

A Club Mail Ballot

Chester A. Klien, President of the Cleveland Club of Printing House Craftsmen, spoke upon the subject, *A Club Mail Ballot*. For a number of years the Cleveland Club has conducted its elections by mail balloting system. First, there is a nominating election, followed the succeeding month by an election ballot. Mr. Klien enumerated the benefits derived as follows: (1) It eliminates any "steam roller" tactics, (2) It assures opportunity for every member in good standing to vote irrespective of his attendance at club meetings, (3) Candidates for nomination must be interviewed by the nominating committee and their consent and willingness to serve in office must be secured before their names are placed upon the mail ballot. On the ballot appears a blank line beneath the name of the candidate selected by the committee so that members may write in the name of any Craftsman if they so wish. After the nominating committee has completed its filling out of a recommended ticket, the ballots are printed and mailed to all members in good standing. The club pays the postage both ways. The voted ballots are mailed to the chairman of the election committee, who with his associates counts the ballots and reports the result to the club president. In turn, the president makes a report to the members at a regular club meeting.

A Club Record System

Hayden Keenan of the San Antonio Club, spoke upon a secretary's record system devised by A. L. Koenig, secretary of the club. A great deal of interest was indicated by the delegates in the simplicity of the system as explained by Mr. Keenan. The entire bookkeeping operation is carried on 3x5 bristol cards inserted lapped form in a compact leather case. All data about each member, such as his name and address, his membership classification, date of joining the club, payment of dues, attendance at club meetings, etc., are carried on one card for each member. President Griffin spoke on the subject after a considerable number of questions had been answered. It is proposed to explain the system in detail in literature to be sent to each club by the International association.

Membership Solicitation

Addis Dempsey, Vice President of the Donovan & Sullivan Engraving Co., Boston, was called upon by Chairman Hogan to discuss *Membership Solicitation*. Mr. Dempsey stated the securing of members is the most important obligation of any club. It should be a constant endeavor. In the Boston club, members are encouraged to bring prospective members to the club meetings as guests. At each club meeting, before the speaking program, three or four new ideas of interest to plant executives are presented. New members are urged briefly to also bring in new members. A program of general publicity to the trade and in the newspapers is carried on at all times.

Members of the Boston Membership committee feels it has a selling job to do. They contact prospects in all branches of the Graphic Arts. Notices about meetings are sent regularly to at least three other Boston Graphic Arts groups. The regular mailing list to which promotional literature about meetings consists of about 1200 people. While some of the persons to whom the club sends this literature may not be eligible for membership, yet they are, in many cases, instrumental in influencing others who are eligible, to become members. Periodically, former members of the club are contacted to see if their interest cannot be revived sufficiently to rejoin the club as a new member. Also, at certain times, the membership committee mails a membership blank, a copy of the current club publication, *Crafttopics*, and a personal letter from the club president to prospective members inviting them to become members.

Mr. Dempsey spoke of the desirability of encouraging the manufacturer and supplier representatives to take an active interest in securing members and to bring information about changes of jobs by executives to the committee. Also, if a journeyman is promoted to the position of foreman or assistant foreman, the supplier representatives are requested to bring such information to the membership committee. He stated: "Any club that doesn't have these men on their membership committee is missing a good bet." A check list of firms that do not have members in the Boston Club is kept and the management is contacted to encencourage its executives to become members.

Tuesday Morning

The Tuesday morning session was devoted largely to International affairs, such as the presentation of the reports of officers, reports of various committees and the special session called *Club Operating Clinic* conducted for club officers by International Executive Secretary Pearl E. Oldt. Chairman Oldt's session was extremely valuable to those officers of local clubs needing counsel.

Harris-Seybold's colored sound movie, *How to Make a Good Impression*, was presented. In the picture is shown the production of lithographic jobs from receipt of copy to the finished printed product.

Tuesday Afternoon

Color in the Reproductive Arts

The extended use of color and problems faced by people in the photographic field in its use were covered by Richard W. Gardner, of the Graphic Arts Sales Division, Eastman Kodak Co., in his talk, *Color in The Reproductive Arts*.

Advancements in the Graphic Arts fields have for the most part come from the sources of supply of the materials. As time goes on, it is unlikely that the improved materials will become simpler in form although their use will undoubtedly become simplified. This is evidenced in Kodachrome, started by Eastman back in 1935. Today almost anyone can make color photos in the average camera with a color corrected lens. Of course, to produce results in the reproductive fields the operator must have knowledge of certain fundamentals. The photographer should have the ability to tell the action of light on the subject. He should understand the action of filters; where four were formerly used, there are at least 15 filters necessary to intelligently carry on a job of color separation today. The photographer should have a basic knowledge of the composition of the photographic emulsions with which he has to work. He should know the type of emulsions and their sensitivity to light. While panchromatic emulsions were formerly noted as being color sensitive, they now are noted under three types of sensitivity: greater sensitivity to red, on one form of emulsion to the greater sensitivity to blue-green on another form of emulsion. The photographer should have a basic knowledge of photographic chemistry. He should have a knowledge of what each element does in the developer.

Gardner stressed that many efficient and proficient photographers at work in the industry today fail to have some of this knowledge. Yet it is conceivable that better work can be turned out with such knowledge, for today photography is a science.

With the deficiencies in pigments, Gardner pointed out that the separation negatives need hand correction even though masking or mechanical means of correction are employed. Masking is really nothing more than the interposition of a negative or a positive between the light source and the sensitive emulsion for the purpose of holding back the colors that are not wanted. Of course, this is in addition to the use of the filter. For instance, in a separation negative made through the red filter, the areas that are to be printed in blue-green ink will be clear in the negative. Where too much of other colors may show through on this negative, a positive may be used as a mask to hold back this extra work. Where still further correction is necessary, the work will have to be done by hand. There is some work being done in the field of electronic scanning in this direction of taking care of printing inks and pigments.

Calling attention to the magenta and orange contact screens used as a substitute for the conventional glass cross-lined screen, Gardner said that it was his belief that the finest halftones are now reproduced with the orange contact screen.

With a better understanding of the problems involved in a plant or even the industry, and an improvement in the materials so that better work may be produced faster if possible, the Graphic Arts reproductive field will go forward.

Neil B. Powter of Howard P. Smith Mills, Ltd., Montreal, Can., was assigned a dry-sounding topic: *Facts, Figures, and the Future of Cellulose Sources.* Craftsman Powter's address was delivered interestingly and he held his audience's attention by handling his topic cleverly.

A New Printing Machine

W. B. Thiele, Sales Manager, Graphic Arts Dept., The Sperry Corporation, in a talk on *A New Printing Machine*, told of the developments in letterpress and rotogravure web-fed presses being produced by the Sperry Corporation.

With the production of these presses in the maximum size up to 50 in., with speeds of the web running up to 1000 ft. per min., Sperry believes he can supply commercial printers with a versatile machine capable of multi-color work adaptable to a wide variety of papers, tissues, transparent sheets, paper board, and the like.

In use for the printing of paper board, milk containers, the Sperry rotary letterpress printer and blanker, with the web traveling at speeds up to 500 ft. per min., performs multi-color printing, creases the product, cuts it into shape, the waste materials between the blanks is automatically stripped, and the individual blanks delivered on a stacker apron. Another machine then fabricates the forms into the box shape.

"Feeling the need for this same type of machines in the gravure field," said Mr. Thiele, Sperry has built them with a rotogravure head as well as letterpress. With the success of rotogravure in the magazine field and multi-color newspaper printing, Sperry feels that the interest of the Graphic Arts is centered on rotogravure methods. It was also felt that a rotogravure web-fed press built for the commercial printer is the answer to the question of greater speed at reduced costs.

Innovations have been incorporated in these machines. Tension on the roll was found to be the secret of success in color printing on these presses, and so Sperry has devised a new hydraulic tension-control equipment. On this press the doctor blade can be cleaned while the press is running at maximum speed. Adjustment of the blade can also be made by hand with definite control through a visible blade pressure dial.

New Officers
International Association of Printing House Craftsmen

The new officers of the International Association of Printing House Craftsmen, elected at Saratoga Springs (N. Y.) Convention on Wednesday, September 3, are as follows:

President—A. Gordon Ruiter, Superintendent, Forbes Lithograph Co., Boston.
First Vice President—Gradie Oakes, President, Process Color Plate Co., Chicago.
Second Vice President—Russell J. Hogan, Plant Manager, the Blanchard Press, New York.
Third Vice President—Fred Baillie, Canadian Bank Note Co., Ottawa, Can.
International Treasurer—Edward T. Samuel, Manager, Samuel & Walker, Cleveland.
Executive Secretary—Pearl E. Oldt. Mr. Oldt recently went into full time duties. His office is in Cincinnati. His office is elective through International Board of Governors.

International Commission Appointments

At the annual banquet held on Wednesday night, September 3, President Ruiter announced appointments for the year as follows:

Chairman Educational and Research Commission—J. Homer Winkler, 505 King Ave., Columbus 1, Ohio.
Chairman Publications Commission—R. L. Olander, 526 Crescent Blvd., Glen Ellyn, Ill.
Chairman Public Relations Commission—G. J. Holmquist, 1228 S. Flower, Los Angeles 15, Calif.
Chairman Industry Relations Commission—The President.
Chairman Manuals and Historical Publications Committee—Walter Schultz, 5934 Goodwin Ave., Dallas 6, Tex.
Chairman Club Bulletin Service—Edward H. Christensen, 4600 Diversey Ave., Chicago 39, Ill.
Chairman Membership Campaign—Pearl E. Oldt, 5095 Cleves-Warsaw Pike, Cincinnati 5, Ohio.
New Clubs—District Representatives.
District Conferences—The President.
Club Assistance—Pearl E. Oldt.
Employment Service—Pearl Oldt.

Appointment Representatives

Representative at Large—John L. Reay, 175 W. Royal Forest Blvd., Columbus, O.
Foreign Representative—DeWitt A. Patterson, 108-25 72nd Ave., Forest Hills, L. I.

Appointive District Representatives

1st District—John R. Donohue, 470 Atlantic Ave., Boston, Mass.
2nd District—Victor Van Audenhove, 49 Sheridan Ave., Albany 6, N. Y.
3rd District—Norman Clement, 45 Owen St., Rochester 13, N. Y.
4th District—C. R. McClure, 252 8th St., S.E., Washington 3, D. C.
4th District Deputy—Robert Pollack, Godfrey Roller Co., Philadelphia, Pa.
5th District—O. G. Fricke, 43 West Apple St., Dayton 2, O.
6th District—Fielding Utz, 422 S. Fourth St., Milwaukee, Wis.
7th District—Joe McConnaughey, 220 Luckie St., W., Atlanta, Ga.
8th District—Elmer Leach, 807 Grand Ave., Des Moines, Iowa.
9th District—Charles B. Weimer, 602 Fulton St., San Antonio 1, Texas.
10th District—Rudolph Ernst, 3664 S. E. Center St., Portland 2, Ore.
11th District—Haywood Hunt, 512 Clay St., San Francisco, Calif.
12th District—H. F. Edmonds, Secretary-Treasurer, Mitchell & Herb Engraving Co., Los Angeles, Calif.
13th District—Herbert Threlfall, 55 Pine St., Providence 3, R. I.
14th District—Iver Peterson, 1826 Wallace Ave., Duluth 3, Minn.

Accessibility, said Mr. Thiele, is the key word to construction.

Printing from cylinders only, the rotogravure press permits of quick change and short makeready. Some study has been given to the production of these cylinders, with innovations promised in the near future. Some of the problems encountered in the use of carbon tissue have been eliminated, and production has been standardized.

Wednesday Morning

Planning for Production and Profit

Homer F. Sterling, Carnegie Institute of Technology, Pittsburgh, Pa., brought out his bag of common sense answers to the problems of *Planning for Production and Profit*. Planning problems seem to be increasing in the Graphic Arts, and they are bothering the other side, too. The reason we are in business is because we can produce a product at a price some one can afford to pay. As labor goes up, cost goes up; many people cannot afford the kind of printing they have to have, and my idea is to try to present some kind of solution that might help.

During the war many employee magazines were published. In one case, the printer was losing money and the editor—a woman—was hastening for a nervous breakdown because the publication was not coming out on time. In one issue of 16 pages we cut out $800 expense. One of the troubles was that the editor selected 70 picture captions which had to be hand set, and many other things like that.

For the past eight years we have been working with a magazine. I arranged to send the copy to a printer 175 miles away, and the illustrative material to an engraver 110 miles away. The editor gets the galleys back and the pasteup is sent to the printer; in turn, the printer gets his first makeup proofs back without a mark on them. In other words, there is only one makeup, and one full page proof of each page is pulled. We have been able to get a good job at minimum cost because the printer has no headaches. The thing is planned.

Along that same line I want to give you an example that is just a little bit different. A company needing a booklet turned it over to a fine printer who works primarily for advertising agencies. He took this without a layout. I saw it when it was too late. A superb job of production, but so poorly laid that the public relations man was rather ashamed to send it out. He had planned to bring out three others, but due to bad design the printer lost $15,000 potential business. Again, planning would have been the right thing.

I have listed things that are part of the plan. If you are planning to build a house, you would be nuts if you did not have someone plan it. It is cheaper to plan than not to plan. I have seen so many jobs go into a composing room and when set up into galley form there would be at least 17 or 18 pages instead of 16. If the job had been planned, (maybe a half-hour's time), the customer would have come out with something it could use.

Start with the people who write. Proper copy preparation all the way down the line is essential. The different sheets are marked so you can keep track of them; this is a very good start. A person should have a knowledge of type faces and the mechanical limitations of the machines that produce them.

A customer complained about charging too much. He picked an 18 pt. type out of the specimen book. There were no 18 pt. matrices. The printer did have the 18 pt. type but the customer complained about the cost. The planner should know.

Copy Fitting: A lot of printers just do not believe it is necessary. I strongly recommend the systems put out by the Mergenthaler Linotype Co. and Intertype Corporation. Copy fitting is essential because of the human element. The operator on the machine can alter original plans according to how sloppily or carefully he spaces. Mark copy so some one can read it.

In sizing cuts, use a slide rule. The slide rule I refer to is a circular device made of paper. It costs a quarter. You can scale any cut in two minutes. Order your engravings to pica sizes and not to inches. How are you going to express 14½ picas in inches? Use pica measurements.

Simple design for easy makeup, incidentally, is good design. The closer it comes to simplicity, the better. Allot a distinct number of lines on each page when you start to plan jobs. It is too late after the jobs are done. Measure not by inches, not by picas—measure by lines.

If you have 48 or 50 lines to a page, that is your unit of measurement; otherwise you won't be able to get a cut on a page. A cut may be 3 in. deep, but remember it represents so many lines. When the proof comes back, it will fit perfectly the space allotted. That is what I do on these magazines. It looks better and it takes a very short time to do it.

Where you have several cuts on the page they should "float" to permit flexibility if there is an editorial change. Then you have no lockup problem.

Line-up: When you get into bleeds, there is a problem for engraver and designer. When you have battered cuts you can't make them up unless they are mounted on the same block. Across-the-gutter treatments should be avoided.

Angles: Most angles are worthless and knowledge of design is essential to make them effective.

Knowledge of paper sizes is necessary. You should know what you can get out of a 25 in. by 38 in. sheet. Especially, you should know the surfaces of papers including types. Some types print better on one kind of surface than another.

A lot of people like to print all over the sheet. Designers should get better acquainted with the problems of the pressroom. And something that I cannot go into in detail here is the broad job of planning for letterpress. For example, the gravure printer does not like white space. He would rather have solids. In offset you can print delicate tints. So the designer should get acquainted with the possibilities of each process.

Who is doing a lot of the planning today? It's done mostly by artists. The artist goes to an art school where he gets education from a man who would prefer to paint landscapes. The artists come out of the school wanting to paint pictures. They are not designers. No understanding of your problems has ever been drilled into them. Do not blame the art schools so much. They do not know how wrong they are.

In Pittsburgh we have tried some solutions to this problem. The Ad Club was short of production people. We set up a clinic. We tried to give them some of the facts of life that we were talking about. We started from scratch and now they know. They are laying out their ads properly.

The problems are going to get worse. Who is to blame for the headaches? You Craftsmen are. You have been too gentlemanly for too long. You are the fellows who know what is wrong. You see it in your composing room.

My recommendation is: Find among your group the men who are fitted to talk about it. Form a group to spread these facts of life. Take these artists by the nape of the neck, and pound it into them. Some will be reluctant; some will take to it like ducks to the water. Or, take some of your own men and give them enough design knowledge. It will work either way. My recommendation is to start with you. The employing printer sometimes does not know the problem. The agency or advertising club is on the other side of the fence. You fellows are the ones going to supply the answer.

Future of Cellulose Sources

In his talk on *Facts, Figures, and the Future of Cellulose Sources*, Neil B. Powter of Howard P. Smith Mills, Ltd., Montreal, Canada, revealed many interesting items on paper sources and the research being conducted in that field.

While there are many sources of fibre from which paper might be made, Powter, after citing the objections to the use of many of them, declared that for the time being paper and the boxboard industries will continue to use vegetable cellulose fibres.

There are but two major sources for these fibres, the one being trees, and the other grasses or plants. Ruling grasses and plants out as unsuitable, Powter stated that the best source of tree fibre came from the North Temperate Zone, and that this is the major reservoir.

It follows then that we on the North American Continent are vitally interested in our supply of trees for in addition to supplying wood for lumber and other wood products, paper and box board, fire wood, they also supply increasingly our synthetic fibres like rayon, and a host of plastics. We should be interested, for instance, in the fact that the depletion rate of cutting, fires, insects, and disease over the past 50 years has been as high as, or higher than, the annual growth.

The truth of the matter is that under today's conditions the United States simply cannot afford to extract from its forest lands the fibre or timber it requires, and therefore must look elsewhere for supplies. One of these other sources of supply is Canada. In Canada the pulp and paper business alone is responsible for some 14 to 20 per cent of the total value of their exports, a fact that enables them to buy manufactured goods from the United States: oil, citrus fruits, early vegetables, cotton, and a host of other things they lack and cannot make as cheaply as we can. Canadian forests cover some 1,300,000 square miles of roughly 38% of the total land area. Each year 3,150, million cubic ft. is drained off; this figure often representing more than the total annual growth in the area worked at present. This should illustrate that the depletion rate of wanted varieties is greater than the regrowth. The total drain on Canadian forests has been pictured as follows: Firewood 22.6%; fires, insects and disease 26.6%; logs, bolts, ties, 30%; pulpwood, domestic and export 20.8%; This shows that the pulp and paper companies represent the smallest item of drain.

Research has been introduced in this field with the result that waste of many kinds has been cut down. The matter of waste products, for illustration, there are sugars, tars, liquors, resins, aromatics, and a list of chemicals now largely going to waste. Chemists conducting this research report the possibility of extracting the components of wood with their worth being possibly 8 to 10 times the value of the fibres. It is not inconceivable at some future date that cellulose fibres might become the byproduct of the wood chemical industry. Even at present two or perhaps more pulp producers are extracting vermillion, the essential of vanilla extract from the evil-smelling waste liquor of the sulphite-pulp process. Then, too, some of the very best perfumes have as their aromatic base natural or synthetic vermillion. Another example of extractions from the components of wood is that of alcohol solvents. During the war thousands of gallons of these solvents were made from wood sugars.

An important item is that of ligmin. This is nature's plastic cement binding the cellulose fibres together in wood. After extensive work at the U.S. Forest Products Laboratory at Madison, Wisconsin, where several staffs pooled their "know-how" a ligmin plastic laminate was born, which is now being made in Canada. The ligmin is separated from the soda black liquid, and after chemical treatment it is filtered out and dried, becoming a fine brown powder much like cocoa.

Mr. Powter stated that the point of this story is that a waste product is now being utilized. "No doubt," said he, "others will follow as we learn how to extract them."

He continued: "Provided we treat our forests right there is very likelihood they can be made to yield sufficient cellulose fibre to satisfy all wants for years to come . . . We will have to face the expense of caring for our forests, of cropping them properly instead of mining them, and lastly we will have to learn how to extract more valuable materials out of our wood so that future costs of fibres do not get out of line.

Slides for Club Programs

Gradie Oakes, President of the Process Color Plate Co., Chicago, on his topic, *Photoengraving* told of the effort of the International in its educational programs to secure slides and accompanying talks on the various phases of photo-engraving. These slides are to be used by small clubs, unable to get prominent speakers because of their limited membership and inconvenient location. With an appropriation of $500, three sets of these slides with accompanying written talk were being prepared.

In the production of the slides, Oakes told of taking 200 originally but that 150 were selected for the final set. A complete showing with the talk would take about 45 min. Clubs wanting the use of the slides are to contact the International Club of Printing House Craftsmen.

Future plans include the production of slides on offset printing, plastic plate molding, bookbinding and other processes.

G.I. Printers

One out of every 28 veterans taking on-the-job training under the G. I. Bill is learning to fill a position of typesetter, compositor, pressman, plate printer, or some other occupation in the printing field, Veterans Administration announced.

A total of 22,091 ex-servicemen are in training in printing.

Production on the "Fotosetter"

How customer handled photo-typeset proofs for 1947 Books by Offset-Lithography Catalog —Appraisal of the mechanism

By A. ALBERT FREEMAN*

**Executive Director, Books by Offset-Lithography, Inc., New York, N. Y.*

DURING the past few years, there has been much discussion about possible developments in the field of photo-composition. Some organizations have informally announced that they are working on the project. Rumor has it that many others are similarly engaged in secret operations of a machine that will set typographic material by means of photographic equipment.

Prior to a new machine developed by Intertype Corporation, Brooklyn, N. Y., the only results we have seen in this field is a photo-typesetting machine that is being used commercially for *display headings only*. Up to the time when we saw the product of the Intertype "Fotosetter", nothing had been presented as a solution to the difficult task of setting *text matter, as well as display*, by photographic means.

An early solution to the problem of text matter composition was indicated early in April of this year when Intertype representatives consulted me on the characteristics of type faces and their adaptability to offset reproduction. I deducted from their work along these lines that Intertype was well on the road to perfecting a new and practicable type of photo-typesetting machine.

This was confirmed when Intertype engineers suggested that the 1947 catalogue of *Books by Offset Lithography* be set on their photo-typesetting machine. This suggestion was made with the understanding that this was to be just another step in the experimental work of Intertype Corporation in testing its equipment on a typical commercial job.

No special instructions were given to me for preparing the original manuscript copy for this job. The type face specifications were marked in the standard form accepted by any trade composition organization. The Garamond series were indicated throughout, using 12 pt. roman, italic and small caps for the Introduction; 10 pt. roman and italic for the body text, with 12 pt. bold caps for the title of each book and 24 pt. bold for the numerals and section headings; and 8 pt. roman for the Indexes, with 12 pt. bold for the section headings and 18 pt. bold for the main heading. It was necessary, however, to indicate that the catalog was to be printed by offset-lithography and that deep-etch plates were to be made by the National Process Co. of New York, N. Y.

After three working days, I received galley proofs that looked very much like the standard architectural blueprints and were referred to as Ozalid prints. At first I suggested the possible difficulty of reading many of these galley proofs in negative form, but was immediately relieved when I saw positive proofs, with a choice of reproduction in either black or dark purple, instead of the original blue.

There were not many typographical errors in these galleys, but it was necessary to make extensive changes in the galley proofs because of incorrect editorial information submitted in the original manuscript copy.

In addition to making all the necessary corrections and author's alterations, the galleys were marked to indicate the beginning and the end of each page. All pages were to have a uniform depth of 42 picas, with the exception of the last page of each section.

After two additional working days, I was called to the Brooklyn plant of Intertype Corporation to examine the finished job in the form of film positives. The results were surprising. I could hardly believe what I saw, but there it was. The sharpness of the smallest detail was better than I had ever seen before. The uniformity of color was remarkably constant as I passed from page to page. Close examination of the letterspacing throughout the catalog showed extremely fine fitting apparently achieved by kerning letters, which at first glance looked like logotypes, but it seems impossible to conceive of the large assortment of character combinations that would be required to make these combinations possible in this manner. In the italic fonts, all of the characters appeared to be kerned.

These final film positives were imposed as a 32 page form and used directly for making deep-etch plates. I was informed, however, that negative films could be supplied just as easily, and in addition, either negative or positive film could be supplied with the emulsion on either side of the film.

The National Process Co. took four working days to make one set of two-color plates, print 5000 copies in two colors and bind the job with two saddle wire stitches, trimmed flush.

Since I have not as yet seen the Intertype photo-typesetting machine, my guess as to its mechanical construction would be no better than any other's. But I can visualize a machine that looks somewhat like the present slug-casting equipment with some special attachment on the keyboard to take care of the unique letterspacing characteristics shown in the finished results.

By means of the keyboard, a line of matrices would be assembled and aligned to the proper width, then transferred to the photographic elements of the mechanism which would replace the hot metal pot and casting equipment. The matrices might have master film positives of the characters instead of the intaglio die impressions, and the result can be a film positive or negative of the complete line on a continuous strip of film. Automatic line spacing could be provided for, with additional spacing between paragraphs if desired. Corrections could be made by "resetting" individual lines and stripping them into the original film, first removing the incorrect line. Again I repeat, this is only my guess.

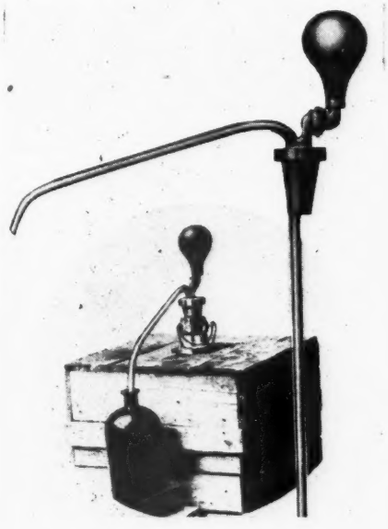
When I thought of arranging for an exhibit of the original manuscript, Ozalid print galley proofs, corrected film and final page films, I was pleasantly surprised to learn that improvements had already been perfected to make this display useless and misleading.

The ultimate perfection of this machine will no doubt bring about some startling changes in the Graphic Arts. It will certainly improve the quality of typographic work that is reproduced by offset-lithography. The elimination of metal typesetting, slug makeup, reproduction proofs and camera work is bound to effect some economies in composition costs for offset jobs. I can also see better results obtained in the reproduction of typographic material on photo-engravings. But I certainly cannot see this equipment taking the place of slug-casting machines immediately for the great majority of work that is now printed directly from type.

EQUIPMENT & SUPPLIES

Pneumatic Acid Pump

A SAFE method of acid handling is provided by a manually-operated acid pump, supplied by General Scientific Equipment Co. It is used to re-



move liquid from a carboy, drum or barrel.

Corrosive and other liquids are said to flow smoothly and stop instantly, they come in contact only with the corrosion-resistant tube and cannot affect other parts. When pump is removed, acid drains completely.

Pneumatic acid pumps are supplied in hand or foot-operated models. Either can be equipped with a lead tube for sulphuric, hydrochloric, hydrofluoric and similar acids or with a Saran, flexible plastic, tube for nitric, phosphoric, acetic acids, peroxide and other liquids. Further details will be sent upon request to *Printing Equipment Engineer*.

Huber Ink Book

A NEW ink specimen book has been published by J. M. Huber Corp. It is 5⅜ in. by 8½ in. size. Fifty-eight colored and black letterpress inks are shown on a variety of stocks. A reproduction of a wood engraving by Fritz Eichenberg is used to illustrate depth of color on the inside pages. An original drawing by Digeorge Phillippi in wood cut technique appears in color in a panel on the cover. An explanation of the inks and how they are used appears in the front of the book. A list of Huber specialties and the purpose for which they are made is listed in the back. A brief section is devoted to *How to Overcome Common Printing Troubles*. The book was designed and printed by Pantone Press, Inc., New York, N. Y.

Film Folder

A FOLDER in which is listed the essential details about Kodalith Transparent Stripping Film, Kodaline Ortho Stripping Film and Kodaline Process Panchromatic Stripping Film, is available from the Graphic Arts Div. of the Eastman Kodak Co.

Illustrations show the results obtainable with the films, and the folder incorporates a chart of roll and sheet sizes. Copies may be obtained upon request to *Printing Equipment Engineer*.

ATF Presses Completed

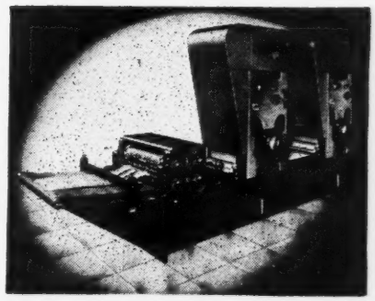
THE Webendorfer Div. of American Type Founders, Inc., has announced the completion of two new high-speed printing presses. The first, a four-color, 30 in. by 40 in. web offset press is designed to print book jackets, gift wraps, box wraps and general work in four colors on one side of the web, or two colors on both sides. Operating at speeds up to 10,000 cyl. r.p.h., the press will deliver in sheets or in rolls. As is shown in the accompanying illustration, the press consists of four offset units, a roll stand, flat sheet delivery, and rewinder.

The second press is a two-unit newspaper style press of the vertical web type, printing from two rolls of paper which will produce an 8 p. standard size newspaper, a 16 p. tabloid size paper, or a 32 p. magazine in one color. Operation is at 12,000 cyl. r.p.h. and printing is on a 35 in. web from a 22¾ in. cyl. The press will also print two colors on each side of a single web, delivering a 4 p. standard size newspaper or an 8 p. tabloid.

Rotary Die Cutting for Cartons

HIGHER carton fabrication speeds are now said to be possible with a new rotary die introduced recently by the Champlain Co. of Bloomfiekd, N. J.

Designed especially for inline use with standard Champlain Speedry Rotogravure Presses, this punch, it is claimed, will cut, crease and score, and deliver

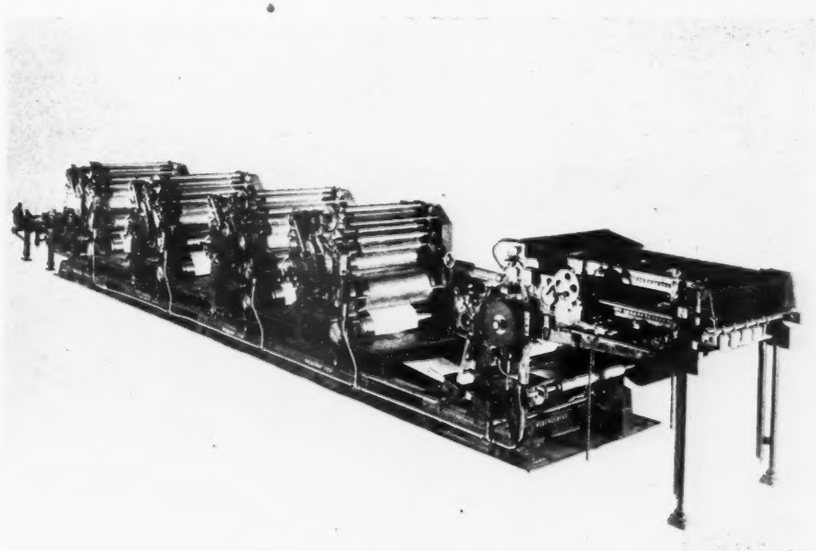


printed, and even lacquered, cartons from a moving web at speeds up to 450 ft. per min.

To assure full production of most every type of carton, alternate rotary dies may be interchanged. Creasing and scoring, and cutting operations are accomplished separately or in unison, according to requirements. Cutting and creasing blades can be removed for resharpening. Further information may be secured upon request to *Printing Equipment Engineer*.

G-E Tri-Clad Motors

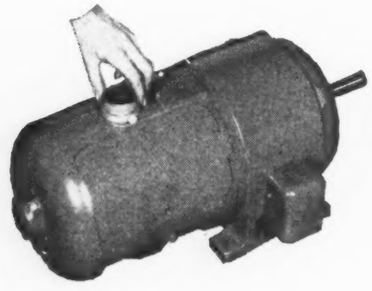
A LINE of Tri-Clad brush-shifting adjustable speed induction motors, Type ACA, has been announced by the Motor Divisions of the General Electric Co. Available in ratings from 3 to 50 h.p. (220, 440, and 550 v.), the new motor features stepless speed adjustment over a 3:1 ratio by simply turning a dial. The entire unit, with the exception of



View of ATF four-color 30 in. by 40 in. web offset press for printing book jackets, gift and box wraps and general work in four colors on one side of the web or two colors on two sides of the web. Operates at speeds up to 10,000 cyl. r.p.h. Delivers in sheets or rolls.

the starter control, is self contained in a housing a little larger than that for a constant-speed motor of comparable rating.

Remote speed control can be accomplished by use of a flexible cable shaft up



to 10 ft. away from the motor. For complete remote control, a small pilot motor can be used to drive the speed control mechanism.

Uniform cooling with low intake velocity is provided by double-end ventilation. Necessary over-load protection and limit switches to insure proper starting are built into the motor. For resistance to oil and heat ageing, Formex wire stator windings are used. A cast-iron bearing enclosure affords protection from noisture, dust, and dirt.

The motor is rated on a constant torque basis. It will carry full-load torque at rated current and frequency without exceeding a temperature rise of 40 C on high speed or 50 C on low speed, measured by a thermometer on the windings. Power factor is high when the motor is running at high speed. At synchronous speed, it is about the same as with a squirrel cage induction motor of similar rating.

Convenient inspection plates may be removed for inspection of brushes and brush-shifting mechanism. The motor may be greased while in operation. All necessary inspections may be performed without removing any operating parts.

Additional information is given in Bulletin GEA-4854, which may be secured upon request to *Printing Equipment Engineer*.

Intertype Quadder Booklet

A 12 page booklet, 7½ in. by 10½ in., is descriptive of the operation and utility of an automatic quadder attachment on Intertype machines. In the booklet, entitled *Intertype Automatic Centering and Quadding*, are illustrated some of the many classes of composition which contain more quadded, centered and indented lines than most printers realize. A detailed description points out how automatic composition of white space with the Intertype Autospacer can speed production and save time. The booklet is available on request from the Intertype Corporation, direct, or you may send your request to *Printing Equipment Engineer*.

Folder Available

A 16-PAGE illustrated folder, 8½ in. by 11 in., in two colors has been issued by the U. S. Stoneware Co. It is entitled *Corrosion Resistant Materials and Equipment*. The different protective coatings are discussed and a chart is provided which shows the type of coating, how to apply, how it is dried, and a brief description of the purpose and qualities of the coating. Copies of the folder may be secured upon request to *Printing Equipment Engineer*.

Side Shifter Truck Accessory

THE Side Shifter, a fork lift truck accessory, has been announced by the Towmotor Corp. The Side Shifter, it is claimed, will permit the truck operator to pick up or deposit a unit load in an exact location without repositioning the truck itself. The carriage face and the fork will move 3½ in. in either direction.

This accessory provides a lateral movement of the load on forks or pallet. This eliminates truck maneuvering and saves time in stacking to obtain maximum use of storage space.

It is hydraulically operated and controlled by a lever mounted convenient to the operator. Further information may be obtained upon request to *Printing Equipment Engineer*.

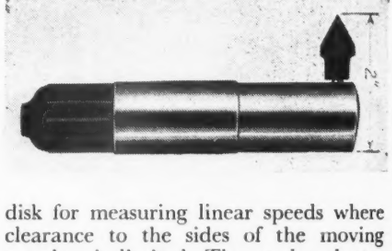
Illustration shows side shifter installed on fork truck. The device permits 3½ in. lateral movement of the load without maneuvering the truck.

Humidity Folder

A TWO-COLOR, 8-page booklet entitled *Humidity Control is more important in your plant than you may realize*, has been issued by Surface Combustion Corp. The principle of operation and details of application of the Kathabar system humidity control for industrial use are explained in this folder. A chart is used to illustrate the various temperature humidity conditions available from the system, as it might be applied to one large processing plant requiring different humidity conditions for processing, packaging, personal comfort, etc. Installations are illustrated including three for film and sensitized paper, drying matches, paper testing, and research laboratories. Copies will be sent upon request to *Printing Equipment Engineer*.

Tachometer Angle Adapter

TYPE 45 Angle Adapters for use with Metron Hand Tachometers permit measurement of speed in cramped quarters where the clearance at the end of the rotating shaft is as little as 2 in. They are also useful with the Type 61



disk for measuring linear speeds where clearance to the sides of the moving member is limited. The angle adapter slips over the standard hand type head. It is precision built and consists of a pair of miter gears supported on permanently lubricated ball bearings to insure smooth running and long life. The tachometer carrying case has space provided for this adapter along with the tachometer itself.

Periodic Analysis Clears

A PERIODIC analysis of the non-offset spray materials made and sold by the 13 manufacturers who belong to Graphic Arts Spray Manufacturers, a group of New York Employing Printers Association, Inc., recently completed, showed that all of the ingredients in the materials continue to measure up to the group's standards to assure that the materials are free of hazards to health when used in non-offset spray devices.

Under supervision of International Printing Pressmen and Assistants' Union of North America and New York Employing Printers Association, Inc., the regular procedure for analysis was followed. Samples of the materials of each of the 13 members of the group were secured from "run of the mill" stocks on hand in New York City printing plants. These samples were submitted to New York Testing Laboratories, Inc. who, after analysis, reported that all of the samples submitted met the requirements of the standards set up by the group.

Photovolt Electronic Transmission Densitometer and Reflection Densitometer

PHOTOVOLT CORPORATION has announced two new electronic instruments for use in the Graphic Arts industries. The first of these is named Photovolt Electronic Transmission Densitometer and the second instrument is called Photovolt Electronic Reflection Densitometer. The first of these two instruments is designed for the measurement of negatives in ordinary photography as well as negatives and positives in offset-lith, gravure and photo-engraving, and it may also be used for color analysis on color film. The Reflection Densitometer is designed for the measurement of reflection density of photographic prints and of illustrations produced by other printing processes such as offset-lith, gravure and letterpress. It is also valuable for tone control in printing press work and permits color analysis on small areas of color reproductions.

In the Graphic Arts field, illustrative tone values must be judged continuously. It is also desirable to work to certain set standards in illustrative reproduction. By correctly exposing and developing, the photographer must attempt to obtain proper densities in the negatives; some densities may then have to be weakened or strengthened by the correction artist. In the actual press run, the pressman must maintain tones in the printed product. One of the main shortcomings of visual tone estimates is that the human eye has a tendency to be influenced by adjacent surfaces of contrasting shade Photoelectric density readings are not subject to errors of this kind. In addition, they can be recorded and filed for future reference to serve as a guide in routine work. Thus, they will prevent waste in labor and material by reducing the remaking of negatives or positives and by decreasing the retouching work to be done by the correction artist.

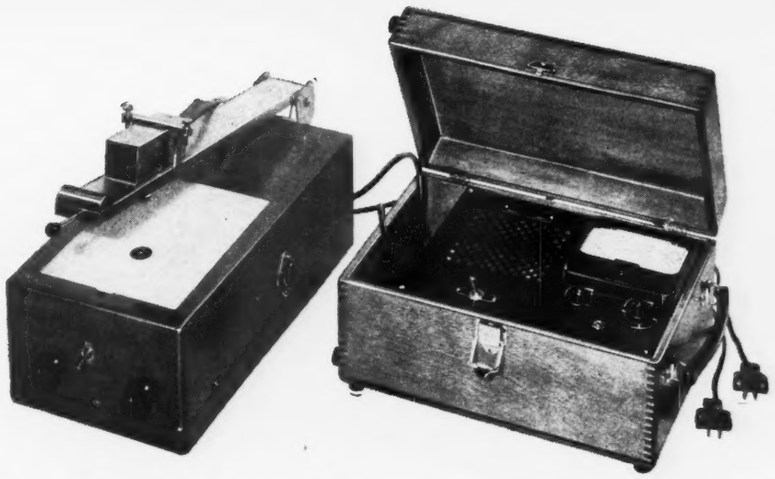


Fig. 1—Illustration shows Photovolt Transmission Densitometer which may be used for measuring density of continuous-tone and screened negatives as well as positives and transparencies in photo-engraving. It may also be used for measuring density of negatives and positive transparencies to albumin and deep-etch in offset-lith and for gravure.

Transmission Densitometer

The Photovolt Transmission Densitometer consists of a transmission density unit and a photometer unit. The equipment works from a.c. power line, plugging into the line only being necessary.

Some of the applications of the Transmission Densitometer equipment are as follows: (1) Measuring contact density of photographic negatives; (2) Determining density contrast; (3) Balancing color separation negatives; (4) Color analysis on color transparencies and color motion picture film; (5) Measuring density of continuous-tone and screened negatives as well as positive transparencies in photo-engraving; (6) Measuring density of negatives and positive transparencies in albumen and deep-etching offset-lith and for gravure, and other applications.

The photometer, shown at the right in Fig. 1, is built into a wooden housing with cover and carrying strap. A compartment houses the search head and the cable when instrument is not in use. The panel of the photometer carries the indicating meter, a zero adjustment knob, and a 4-position range switch. The scale reads in density units from 0 on the right to 2.0 on the left. By making use of the range switch, densities up to 5.0 can be read.

In the perspective view (left, Fig. 1) of the transmission-density unit, the housing is 5½ in. high and the top surface is 15½ in. by 8 in. A clear glass window covered with an opal glass on top measures 6¼ in. by 8¼ in. is recessed in the top surface of the housing. An opening ⅞ in. diam. is cut in the opal glass top to fit exchangeable bakelite disks having openings of various sizes from 1/16 in. to 5/32 in. diameter. The light from a 6 v. 15 c.p. lamp passes upwardly through a triple condensing system and is focused into the measuring aperture. All results are obtained as a needle indication on a meter scale. The readings are independent of individual judgment and are strictly reproducible from one operator to another. The densitometer can be operated in a well lighted room.

To take a density reading, the swinging arm is lowered until the receiver cone of the arm touches the negative or positive placed on the opal glass top. For protection of the negative, the cone is provided with a rubber ring. Negatives can be measured safely even while still wet. Ordinarily in the standard transmission-density unit an unobstructed distance of 12 in. is provided between the measuring aperture and the hinge bracket, thereby making it possible to measure any point of negatives up to a short side of 24 in. such as, for instance, 24 in. by 30 in. A longer arm can be furnished for the unit, for the measurement of plates 30 in. by 40 in.

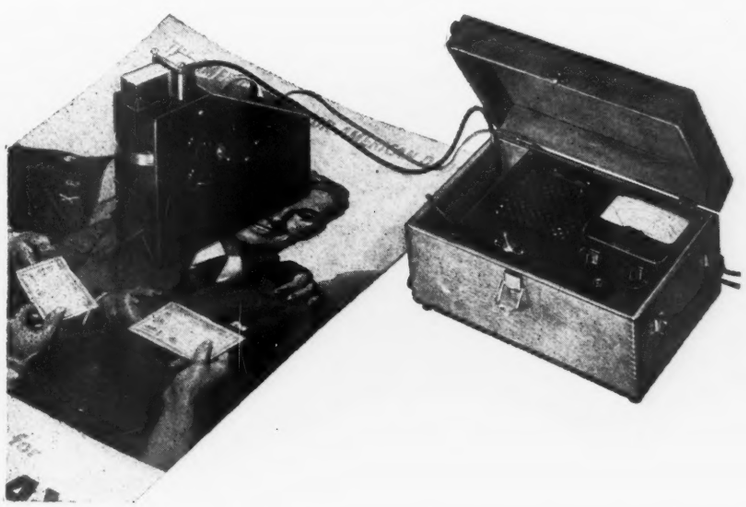


Fig. 2—View of Photovolt Electronic Reflection Densitometer which may be used for measurement of reflection density and color of photographic prints, color analysis and color control on reproductions and illustrations produced by any color printing process.

The Reflection-Density Unit

Among the uses of the Photovolt Reflection Densitometer (shown in Fig. 2) are the following: (1) Measurement of reflection density and color of photo-

graphic prints; (2) Tone control and tone correction in the complete printing process including actual press run; (3) Color analysis and color control on reproductions and illustrations produced by any color printing process.

The Reflection-Density Unit is built into a metal housing. It is furnished with an 18 in. by 24 in. wood baseboard covered by a layer of white plastic material. The unit is hinged to a bracket fastened to the rear edge of the board.

To take a reflection reading, the front of the unit is tilted by its handle and the print or printed piece is placed under the unit, with the spot to be measured in registration with the measuring aperture of 5/32 in. diameter. The light of a 6 v. 15 c.p. lamp is focused by means of a condensing lens to form a light spot in the measuring aperture. The search head of the photometer is attached to the top of the unit. Space is provided between diaphragm and search head for inserting color filters through a slot in the side wall of the unit.

The unobstructed distance from the measuring aperture to the hinge bracket is 9½ in. Therefore, prints with a short side up to 19 in. can be measured in all parts without lifting the unit out of the bracket. For measurement of larger sheets, the unit is lifted out of the bracket and placed on the sheet to be measured as shown in Fig. 2.

A 20-page descriptive folder about the Photovolt Electronic Transmission Densitometer and the Reflection Densitometer will be furnished gratis by addressing your request to *Printing Equipment Engineer*.

Scott Presses To Be Made in England

David J. Scott, president of Walter Scott & Co., Inc., Plainfield, N. J., announced that arrangements have been made with Vickers-Armstrongs, Ltd., of London for the manufacture and sale of Scott Hi-Speed rotary newspaper presses and other Scott printing machinery for most European, some Asiatic territories as well as Australia and New Zealand.

The present arrangement will enable the Scott Co. through Vickers-Armstrongs to offer its product to publishers in countries heretofore closed to American manufactured presses because of currency restrictions, tariffs and other competitive barriers. The presses will be marketed under the trade name "Scott-Vickers" and will be of the latest design.

The presses will be manufactured in the Elswick Works of Vickers-Armstrongs, which has about 16,000 employees. Vickers-Armstrongs engineering and manufacturing personnel are now in Plainfield to discuss the details necessary to the manufacture of the presses. It is anticipated that Scott personnel will later go to England to supervise the manufacture and assembly of the presses.

Mr. Scott pointed out that the agreement also provides for exchange of ideas in research and engineering.

Conference Dates

(with organization names and principal officers.)

American Photo-Engravers Association — Hotel Statler, Buffalo, N. Y., Oct. 6, 7 and 8. Louis Flader, Commissioner, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference—William Penn Hotel, Pittsburgh, Pa., July 19, 20 and 21, 1948. J. L. Stackhouse, Chairman, Easton (Pa.) *Express;* Walter E. Wines, Manager, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Great Lakes Newspaper Mechanical Conference — Pantlind Hotel, Grand Rapids, Mich., Oct. 26, 27, 28. President Deo A. Padgett, Composing Room Supt., Cleveland *Plain Dealer;* Secretary Al. P. Oberg, Composing Room Supt., Flint (Mich.) *Journal.*

Illinois Newspaper Mechanical Conference—Hotel Jefferson, Peoria, Ill., October 11, 12. President, Alex Messengale, Peoria Newspapers, Inc., Peoria, Ill.; Secretary, Howard Colton, *Daily Pantagraph,* Bloomington, Ill.

International Association of Printing House Craftsmen — Secretary, Pearl E. Oldt, 702 Griswold St., S. E., Grand Rapids 2, Mich.

International Trade Composition Association — Frank M. Sherman, Executive-Secretary, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference—Russell-Lamson Hotel, Waterloo, Ia., May 15, 16 and 17, 1948. President, Ed. C. Funk, composing room foreman, Waterloo, (Ia.) *Daily Courier;* Secretary-Treasurer, Paul Kamler, mechanical supt., Clinton (Ia.) *Herald.*

Lithographers National Association—W. Floyd Maxwell, Executive Director, 420 Lexington Ave., New York 17, N. Y.

National Association of Photo Lithographers — Book - Cadillac Hotel, Detroit, Mich., Oct. 22, 23, 24 and 25. Walter Soderstrom, Executive Secretary, 1776 Broadway, New York 19, N. Y.

National Graphic Arts Education Association — Byron G. Culver, president; Fred J. Hartman, educational director, 719 Fifteenth St., N. W., Washington 5, D. C.

National Printing Equipment Association, Inc. — French Lick Springs Hotel, French Lick, Ind., Sept. 27, 1947. James E. Bennet, Secretary, 140 Nassau St., New York 7, N. Y.

New England Mechanical Conference—Hotel Statler, Boston, Mass., Nov. 8 and 9, 1947. President, Wm. F. Madden, Composing Room Supt., Worcester, (Mass.) *Telegram-Gazette.* Walter C. Crighton, Secretary-Treasurer, New London (Conn.) *Day.*

New Jersey Press Association Mechanical Conference—1948 Conference tentatively to be held in Atlantic City, N. J., in June. Hotel and date to be announced later. President Neal E. Dyer, Mechanical Supt., Camden (N.J.) *Courier-Post.*

Northwest Mechanical Conference — President Charles N. Bertram, Pressroom Supt., St. Paul (Minn.) *Dispatch and Pioneer Press.* Vernon Eck, Secretary, 3725 48th Ave. S., Minneapolis 6, Minn.

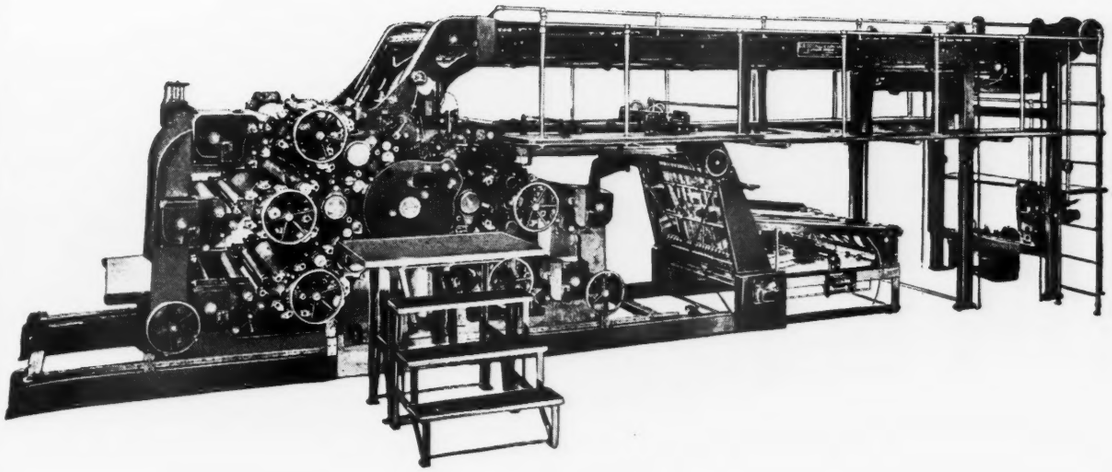
Pacific Newspaper Mechanical Conference — Fairmont Hotel, San Francisco, May 1, 2 and 3, 1948. President J. W. Fitzsimmons, San Francisco (Calif.) *Call-Bulletin;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles, *Daily News.*

PNPA Mechanical Conference — Benjamin Franklin Hotel, Philadelphia, Pa., April 9 and 10. William N. Hardy, Manager, PNPA, 209-213 Telegraph Bldg., Harrisburg, Penna.

Printing Industry of America — French Lick Springs Hotel, French Lick, Ind. Sept. 22, 23, 24 and 25. James R. Brackett, General Manager, 719 Fifteenth St., N. W., Washington, D. C.

SNPA (Eastern Div.) Mechanical Conference — Buena Vista Hotel, Biloxi, Miss., October 6 and 7. Walter C. Johnson, Manager SNPA, P. O. Box 1569, Chattanooga 1, Tenn. Chairman Executive Committee, I. J. Gardner, jr., Composing Room Supt., Chattanooga (Tenn.) *Times.*

SNPA (Western Division) Mechanical Conference—Hotel Adolphus, Dallas, Tex., Feb. 16 and 17, 1948. Chairman, W. F. Thompson, Austin (Tex.) *American-Statesman.* Secretary, C. W. Tabb, 723 Texas Bank Bldg., Dallas, Tex.



THE COTTRELL FIVE-COLOR ROTARY

This outstanding 36 x 48″ sheet-fed press is designed and built by Cottrell to print at speeds up to 6000 sheets per hour. Its speed, quality, production and trouble-free operation guarantees an especially high quota of salable sheets. This press is Cottrell's answer to today's demand for better and faster color printing.

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CARE and ADJUSTMENT

Linotype Single and Mixer Distribution Boxes

By WILLIAM J. BUTLER

I

THE distributor box is a rather simple piece of machinery but matrices can be bent and ruined and production of the machine can be cut down when it is not in correct condition. Distributor stops damaged matrices, and damaged matrices cause distributor stops and so distributor stops multiply themselves. Primary box distributor stops can be reduced to the minimum if we check over the box and correct such conditions as we find to be wrong.

Alignment of Second Elevator and Distributor Box Bars

It may seem strange to the novice that care of the distributor box commences with several machine parts adjacent to it. It should be understood that when a machine is new all the parts are in good working order. In time, parts accumulate worn bearings, even those parts immediately associated with the distributor box. So we'll pay some attention first to alignment of the second elevator bar with the distributor box bar, as well as the adjusted condition of the second elevator lever itself.

With the distributor box on the machine and the machine in normal position, the second elevator lever adjusting bolt should turn freely when twisted by your fingers. This is the ½ in. by 4 in. bolt near the lower end of the second elevator lever that couples the second elevator lever to its link lever with the aid of a compression spring. If the bolt does not turn freely, the second elevator bar plate with its bar are not banking solidly against the second elevator guide when the machine is in normal position.

Before manipulating the nut on this bolt to make it turn freely, check for excessive wear between the second elevator bar link and the ⅛ in. diam. hinge pin that couples it to the second elevator bar. When excessive wear at this point is corrected with a new or rebushed link and new pin, it may free the second elevator lever adjusting bolt and make it unnecessary to change its setting. However, the bolt must be free before aligning the second elevator bar with the distributor box bar.

If it is still tight, loosen the locknut and run in the adjusting nut and lock the two nuts so the bolt will just turn freely with the fingers. Then check alignment of the two bars by sliding some thick pi matrices into the box from the elevator by hand, using the distributor shifter slide in order to keep the matrices square on the bars. With perfect alignment the joint between the two bars will not be felt when pi matrices are transferred by hand. Do not attempt to align the two bars by adjusting the second elevator lever adjusting bolt.

In order to change this alignment the second elevator guide can be moved back or forth by loosening its holding screws and using thin paper or cardboard shims. After moving the second elevator guide, installing new bars, link or hinge pin in the second elevator lever adjusting bolt to make sure it is free.

On models where the second elevator guide is pinned as well as bolted, it is rarely necessary to change the position of the guide. Alignment can be obtained by replacing a worn second elevator bar plate, worn link and hinge pin, and checking the distributor box to see that it is clamped solidly and squarely in position.

Distributor Shifter

Check the distributor shifter to see that its face will present the lugs of a thin matrix to the four stops on the two upper and lower distributor box rails with even pressure on all four lugs of the matrix. With a thin matrix held against the shoulders of the four distributor box rails by the pressure of the spring on the matrix buffer and the distributor shifter slide against its top, you can feel with a slender instrument if there is "shake" or play at any corner of the matrix. Bend the distributor shifter slide gooseneck until there is no play in the matrix and the distributor shifter slide buffer clears the rails and distributor box bar for the whole length of its travel in the box. The long gooseneck portion of the distributor shifter sometimes becomes sprung under certain conditions when the second elevator head strikes it. It can be sprung back into proper shape with two old-fashioned monkey wrenches—one to hold or support and the other to apply the pressure.

Keep the distributor shifter free in its grooves. Use dry graphite for lubrication. If oil has been used previously it will be necessary to clean the grooves thoroughly before applying the dry graphite once a week. A distributor shifter operated by light tension will add years to the life of the distributor box rails.

When the distributor shifter is working freely in its grooves and the line of matrices pass freely into the distributor box, the distributor shifter is apt to rebound when transfering short lines. If this rebound occurs just as the matrix lift is rising, the first matrix in the line to reach the stops on the distributor box rails will not be held firmly in place. The rebound will cause the matrix to slip off the box lift before it is completely raised and the upper distributor screws will bend the matrix.

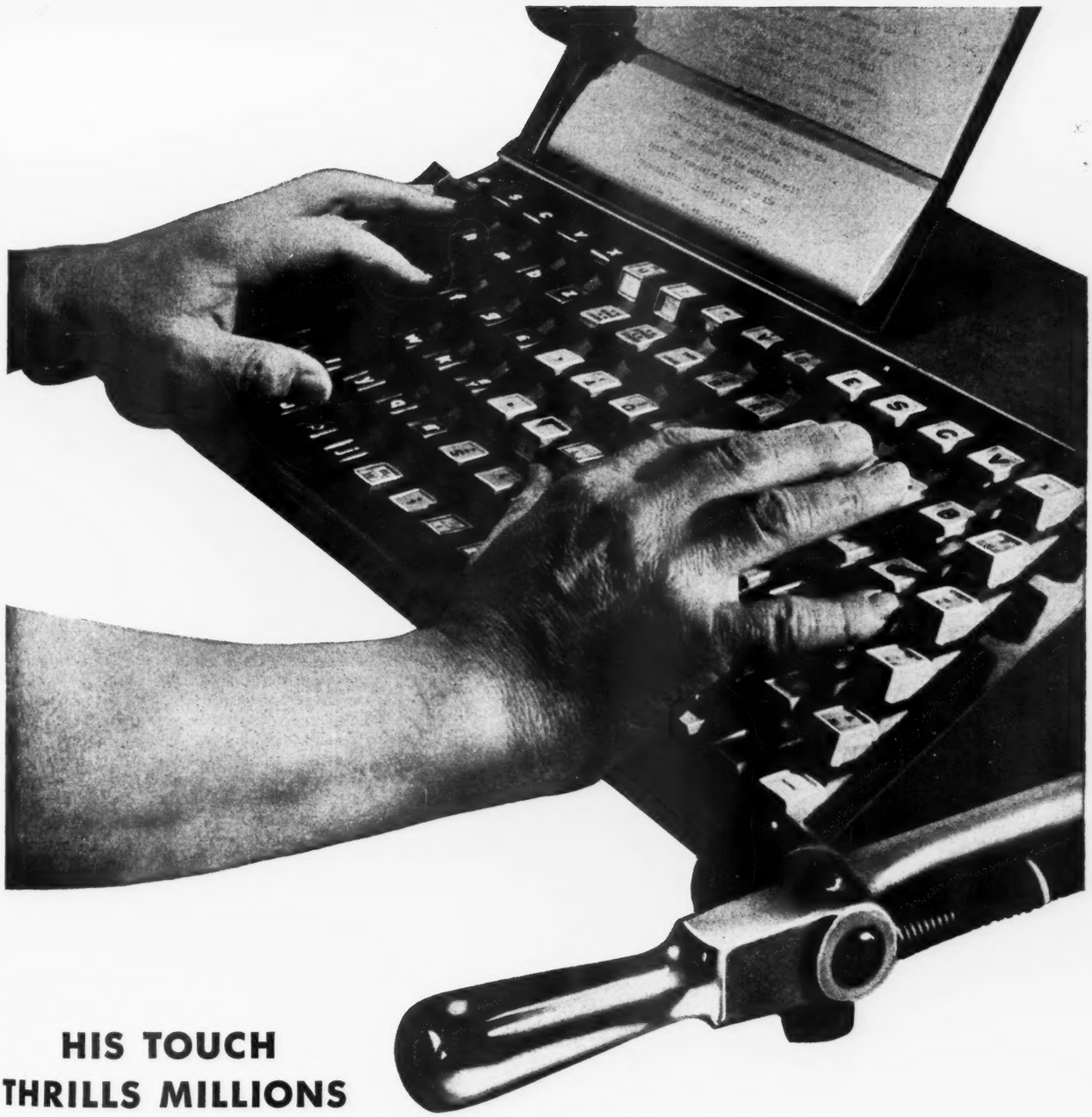
This rebound of the distributor shifter is especially troublesome when casting two or more slugs from the same line of matrices. The distributor shifter is withdrawn by the second revolution of the machine while a few matrices still remain in the distributor box. The rebound occurs and the damage is done when the second elevator comes up and allows the distributor shifter to strike the matrices remaining in the box. Because there is no work for the shifter to do when there are no matrices on the second elevator, the impact is much heavier than normal and the rebound is also greatly increased.

If the shifter is built with a shock-absorbing spring, the spring can be changed to one of lighter tension.

If the connection between the shifter and its operating lever is solid with no spring to take the shock, the distributor shifter buffer spring can be stiffened to help this condition somewhat.

Matrix Lift

The face of the matrix lift that contacts the bottom of the matrix while lifting it above the distributor box rails must be square and sharp or the matrices may



HIS TOUCH THRILLS MILLIONS

Copy. Tons of it every year. Newspaper stories, best sellers, and booklets on raising chickens. Whatever the subject material, the final production is going to make an impression somewhere. It's going to change in some way one man's ideology. It may stimulate the lives of millions.

The Linotype operator has an important role in the dissemination of knowledge. He turns thought into type slugs, helps speed living ideas throughout the world.

We're part of the team, too. Our main interest is to provide you with the finest equipment possible . . . Linotypes that will transmit your every command into profitable production. Today's new Blue Streak Models achieve a flexibility and operating economy that merit your close attention.

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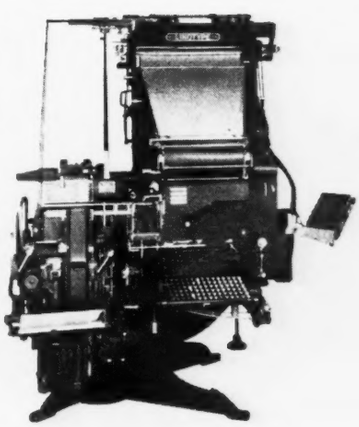

LINOTYPE

Linotype Fairfield and Spartan Black

slip off. If a matrix slips from the lift when partly raised, the distributor screws will bend the upper lugs of the matrix.

If the matrix lift is not held firmly and squarely against the font distinguisher block, the same slippage may happen.

Excessive pressure of the matrix lift spring will wear the lift, lift screw, and font distinguisher block unduly. Insufficient pressure will cause failure of the lift to be held under the matrix until the matrix has been fully raised into the distributor screw.

Extensive wear between the matrix lift and its bearing screw and any friction between the matrix lift edges and the lower box rails should be corrected to prevent interference with the lift being held against the font block when about to lift a matrix or to snap back against the block to lift succeeding matrices. Binding between the edges of the matrix lift and the lower rails is usually caused by wear between the matrix lift lever and its hinge pin and in time will cause the edge of the matrix lift to wear a shoulder or ridge in one of the distributor box lower rails. This ridge will sometimes prevent the matrix lift from sliding positively under the matrix to be lifted. This condition results in the matrix slipping off the lift and being bent.

A worn condition between the matrix lift lever and its hinge pin also means that the shelf or shoulder of the matrix lift is most likely not level so that it does not contact the matrix bottom along its whole width, but is exerting its pressure on one side of the matrix only. If the distributor box upper rails allow space enough, the matrix goes upward with one side higher than the other and releases over the rails the same way. In the case of a thin matrix it may twist or even jump out of the box on being lifted over the rails. If the distributor box upper rails do not allow space enough for the matrix to adjust itself, then the matrix rises when the high side of the lift reaches the bottom of the matrix and continues upward with only one side of the matrix in contact with the lift, from which position it can readily slip.

It should not be necessary to stress the importance of proper lubrication for the distributor box lift lever mechanism. Neglect in lubricating at proper intervals (once a week or so) will eventually cause much trouble in the proper operation of the box. See that the matrix lift lever shaft is oiled, as well as the lever cam roll; see that the lift bearing screw receives a small quantity of oil. Oil is best applied to the lever parts with a short section of wire. Avoid application of too much oil because of liability of the oil being transferred to matrices. The penalty in not lubricating the lever cam roll is that the roll will cut into its bearing stud and may wear to an elliptical shape which in turn will cause varying upstroke of the lift—sometimes so much variation that the matrix will not be lifted clear of the vertical faces of the distributor box upper rails. In this case, the upper lugs of the matrix will be impinged by the distributor screws against the upper rails and bent lugs will result.

(To Be Continued)

The E. B. Co. Willard 22 by 34 single color offset press will be on display at the NAPL Convention at the Book-Cadillac Hotel in Detroit, Mich., October 22, 23, 24 and 25, it was announced recently by Stuart E. Arnett. The accompanying illustration shows the personnel that will be in attendance at the convention. From left to right are M. Brewer, eastern district manager; S. E. Arnett, general sales manager; P. Rice, service manager; H. Gegenheimer, supervising engineer and O. Adams, sales promotion manager. The men are standing on the erecting floor of the Electric Boat Co.

Purdue Students Tour Plant

To foster the interest of educational groups in the technology and development of non-ferrous metals, the Whiting, Ind. plant of the Federated Metals Div., American Smelting and Refining Co., was host on July 24 to a group of engineering students from Purdue University. Professor I. N. Goff of Purdue was in charge of the student group and A. S. Wigle, plant superintendent at Whiting, was host for the company. The metallurgical production processes in making the ingot of brass, bronze, and of the manufacture of solder, type metal, babbitt, die casting alloys and lead base alloys were the focal points of interest.

Great Lakes Conference Exhibits

It has been announced by Bruce O'Connell, Chairman of the Manufacturers' and Suppliers' Committee, that exhibits for the Great Lakes Newspaper Mechanical Conference will be held in the Civic Auditorium, Grand Rapids, Mich., directly across the street from the Pantlind Hotel. Those who wish to take exhibit space should write directly to Frank Witwam, Manager, Civic Auditorium, Grand Rapids 2, Mich. Other members of the Committee of which Mr. O'Connell is chairman, are Charles Scherb, Wood Flong Corp. and Wm. T. Goss, Goss Printing Press Co. Exhibit spaces are approx. 12 ft. by 12 ft.

The Conference will be held at the Pantlind Hotel, Grand Rapids, Mich., on October 26, 27 and 28.

BOOKS

RECEIVED

Lighting Handbook

MECHANICAL executives in printing plants, on account of the indispensability of good lighting in relation to comfort and production, are interested in the subject of lighting. In calling your attention to the new edition of Westinghouse's *Lighting Handbook*, we don't mean to hint that acquaintance with the book will dispense with the services of the lighting engineer or the contractor. On the other hand, there is much information about the science of lighting with which every mechanical executive should have acquaintance.

Of interest to the printing plant executive in particular are Chapters 5 and 9, entitled *Illumination Levels* and *Industrial Lighting* respectively. Other chapters deal with the eye and vision, Light-characteristics and measurements, and light sources. The *Handbook*, consisting of 15 chapters, deals with just about every phase of indoor and outdoor lighting—including offices, stores, schools and public buildings, architectural lighting, flood and street lighting, and airport and sign lighting. All types of lamps are discussed.

Westinghouse Lighting Handbook—Over 200 bond paper pages, many illustrations. Bound Wire-O in limp black cover form. Gold stamped. Size, 5¼ in. by 7½ in. Price, $2. Order direct from Westinghouse Electric Corp., Commercial Engineering Dept., Lamp Div., Bloomfield, N. J.

"That settles it—we have to get Ideals!"

"There they are—twice as big as we are, already! Just because those guys get a kick out of their work and turn out such swell jobs so fast! We could do it, too, with *Ideal rollers* in our presses!"

Give your men the thrill of working with fine roller equipment and see them turn out business-getting jobs for you. Put Ideal rollers on only one or two presses and watch your shop craftsmen scheme up ways to get to use them. Every pressman enjoys using superior rollers. He knows that faultless distribution of ink is the most important link between good plates and high grade paper in producing quality work for your customers.

Ask us about the Ideal rollers you should have on your presses. The impression cost is so low, it will pay you to buy the best in roller equipment—and that means Ideals!

IDEAL ROLLER & MANUFACTURING COMPANY

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EXECUTIVE ¶s

Arthur Koehler has been appointed production manager of Sorensen & Co., Inc., Stamford, Conn., manufacturers voltage regulators and electronic equipment, it was announced by Helen S. Sorensen, President. Mr. Koehler was formerly with the Arma Corp. in Brooklyn, N. Y.

C. C. Kohler, midwest manager for the Miller Printing Machinery Co. for the past 18 years, returned to California as Pacific Coast manager. He is in charge of sales and service for the company. His headquarters are in the Russ Bldg., San Francisco. C. D. Lackore returned to Chicago after six years on the Pacific Coast. His office is located in the *Daily News* Bldg. Frank G. Betlock is appointed sales representative with headquarters in St. Louis.

E. W. Sanders, sales manager of Goodyear Tire & Rubber Co.'s rubber-to-metal products, resigned September 1 to become vice president and sales manager of The Wilsolite Corp., Buffalo, N. Y., distributor of Goodyear rubber printing products and industrial mechanical goods. Mr. Sanders joined Goodyear in 1928, and organized the company's printer supplies department in 1936. E. R. Coats has been appointed acting manager of Goodyear's printer supplies sales, it was announced by H. D. Foster, manager of the Mechanical Goods Div. In the two other departments headed by Mr. Sanders, Ernest Peterson will continue as manager of industrial roll sales, and R. W. Eckstein will continue as manager of tank lining sales.

E. W. Sanders becomes Vice President and Sales Manager of Wilsolite Corp.

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Bed Size....25"x46¼"
Max. Sheet. 24¾"x27"
Max. Form..24"x24½"
Floor Space.3'9"x9'10"

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Fourteen Vandercook Proof Presses are now available—priced from $125

James D. Jones has been appointed sales representative for the Nolan Corp. in Nebraska and Iowa, it was announced recently by Lyndon E. Rebe.

Shortly before his recent passing away, A. Stull Harris, president of Harris-Seybold, announced C. W. Harrold as vice president in charge of engineering and development for the company. Mr. Harrold joined the firm in 1906 and has served as chief engineer of the Harris Division in Cleveland since 1919. He was instrumental in the design of the first modern-type two color offset press in 1920. Mr. Harris and Mr. Harrold, working together for more than a score of years, have given the Graphic Arts in-

Now Vice President in charge of engineering for Harris-Seybold, is C. W. Harrold.

Vacations are over and materials are coming in quite well, so our production is fairly steady, allowing for regular shipments of the model 3-A and Model 45 Saw Trimmers. We are proud of our installations . . . in most of the better plants throughout the country . . . let us tell you about them . . . also the new MORRISON SLUG STRIPPER . . . MORRISON SPACE BAND CLEANER.

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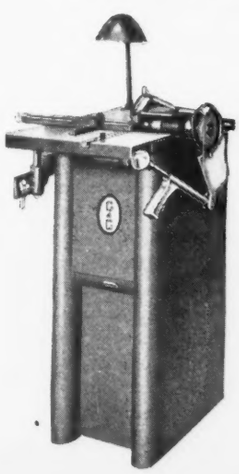

One of the most profitable pieces of composing room equipment that can be installed. Fast accurate, durable. Saves time, labor. Write for details.

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CHALLENGE

SEMI-STEEL

IMPOSING SURFACES

PRECISION GROUND

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Yes, we are back into production of Challenge composing room equipment. Right now is the time to replace those old-fashioned imposing stones with these precision ground, rigid, true working surfaces of semi-steel. They will speed up work and reduce lock-up time.

Challenge Semi-Steel Imposing Surfaces are two inches thick with heavy reinforcing ribs at right angles to prevent sag. The tops are precision ground to a high degree of accuracy and will maintain that accuracy when properly supported. Furnished with or without rabbet for standard galleys.

Built in 18 standard sizes all precision ground . . . except the 28x120-inch and 28 x 144-inch sizes which are planer finish. Special sizes on order

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Steel Galleys—Galley Cabinets—Plate-Mounting Equipment—Stereo Bases—Hi-Speed Quoins—Labor-Saving Iron Furniture — Mammoth Iron Furniture and Proof Presses. Write for data today!

550-C

Challenge

THE CHALLENGE MACHINERY COMPANY

GRAND HAVEN, MICHIGAN

dustry numerous outstanding developments in offset press design. One of their first major achievements was the development of the first four color offset press in 1931. Recently Mr. Harris and Mr. Harrold had been directing the company's engineering research that resulted in the new models of Harris offset presses announced since the war. As vice president, it was reported, Mr. Harrold will work on the executive level to intensify and coordinate all Harris-Seybold engineering, product development, and technical research activities.

Harry Y. McCool, sr., superintendent of maintenance of the Timken Roller Bearing Co."s Steel and Tube Div., retired September 1, after more than 31 years of service. Leland S. Steiner has been named his successor it was announced recently. Mr. Steiner has been assistant superintendent of maintenance. He is a member and director of the Asso-tion of Iron and Steel Engineers and the Canton Chamber of Commerce.

Carlton S. Proctor was elected to the board of directors of ATF Inc., it was announced recently by Thomas Roy Jones, president and board chairman. ATF Inc. is the parent company of American Type Founders, Inc., printing press, type and supply manufacturer, and American Type Founders Sales Corp. Mr. Proctor is senior partner in the firm of Moran, Proctor, Freeman & Musser, New York consulting engineers. In World War I, Proctor was a captain of engineers, and in World War II, as a colonel, was commanding officer, desert district, Persian Gulf Command, receiving the Legion of Merit.

Harry W. Knoll has been elected president of H. B. Rouse and Co. of Chicago. Other officers are: W. A. Sittig, secretary, general manager and chairman of the board of directors, and S. H. Rouse, vice president and treasurer. A new machine tool division of the company, produces hand milling machines and fixtures for the metal working fields.

Harry W. Knoll elected president of H. B. Rouse and Co.

W. A. Sittig, Secretary and General Manager of H. B. Rouse & Co.

behind Burgess Quality

Uniformity of moisture content penetrating to the heart of the fibres in Burgess Chrome Mats is one reason for their greater plasticity... their ability to take deep impressions and retain them ... their consistent shrinkage.

There's another precaution at the Burgess plant that guarantees the user this uniformity of moisture content . . . that enables every shipment of Chrome Mats to give the same high standard of service. This is an airtight, waterproof wrapping. It's another of the factors "behind Burgess quality."

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UNPRODUCTIVE WALKING TIME

Talking about productivity by efficient use of space may not seem apropos to fire prevention, but fires seldom develop very far if a shop is orderly. It is the messy and unkept shop where most fires develop to such an extent that total loss is incurred.

Larger plants can afford engineers to lay out their plants. Smaller plants can achieve good space productivity chiefly by cleanliness and proper arrangement of equipment for the elimination of miles of unproductive walking every day. A plant can only be made to make money when it produces work. Fully 75% of walking is unproductive.

Patents

For The Graphic Arts Field

Covering patents issued July 1, July 8, July 15, July 22, July 29 and August 5.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issuing each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting Perforating

During the six weeks covered by this report, no patents have been issued for this heading.

Composing Room Equipment

DESIGN 147,117. ORNAMENTAL DESIGN FOR A FONT OF TYPE of capital letters only, each with a diamond-shaped period placed after it. The design follows the Old English idea but is more ornate, using a leaf-like motif. The main portion of each letter is broadened, has one smooth curved edge like the curled back of a leaf, and one serrated edge like the outer edge of a leaf. Invented by Thomas J. Deckard, Joplin, Mo. Unassigned. Application July 6, 1946. Term 3½ years.

Feeding, Folding and Delivery

2,423,778. ADJUSTABLE JOURNAL BEARING STRUCTURE is provided for a web unwinding machine. Journal includes a lower shaft-supporting portion and an upper complementary cap portion. The cap portion is interlocked with the shaft for joint movement in both axial directions. An axially fixed threaded shaft extends axially of the journal and has threaded engagement with the cap portion of the bearing. Rotation of the threaded shaft serves to adjust the position of the roll. Invented by Robert McC. Johnstone, Bondsville, Pa. Unassigned. Original application June 13, 1942, now patent No. 2,412,509. Divided and this application May 5, 1943. 3 claims.

2,425,039. SHEET CUTTING AND CREASING PRESS of the bed cylinder type with upper and lower platens, is provided with means for periodically moving the lower platen into coaction with the upper platen to cut and crease successive sheets. The strokes of the movable platen and of the sheet handling carriage are kept to a minimum, thus decreasing inertia forces and increasing production speed without sacrificing the known desirable features of this type of press. Sheet grippers and suction devices are on the reciprocating carriage and are respectively operable to feed-in a new sheet and simultaneously deliver a preceding cut and creased sheet. The carriage is reciprocated at a slow speed on its forward stroke, with pauses at the beginning and near the end of its stroke, and with a rapid speed on its return stroke. Invented by Hans J. Luehrs, Westerly, R. I. Assigned to C. B. Cottrell & Sons Company, Westerly, R. I. Application August 25, 1944. 36 claims.

2,425,040. SHEET CUTTING AND CREASING PRESS, application for which was a division of the application for patent 2,425,039 reported above, features an arrangement for unlocking the upper platen. If make-up is to be changed, upper platen is unlocked and swung to an open position, and any desired changes made. Platen is then returned to normal position which automatically closes the latch holding it in place. Invented by Hans J. Luehrs, Westerly, R. I. Assigned to C. B. Cottrell & Sons Company, Westerly, R. I. Original application August 25, 1944. Divided and this application May 16, 1945. 11 claims.

2,425,041. SHEET CUTTING AND CREASING PRESS, the application for this patent being another division of that for Patent 2,425,039, reported on the preceding sheet. The claims here concern the improvement by which backlash of the carriage at the ends of its forward and backward strokes is prevented. This is accomplished by disposing two rollers at each end of the carriage and spring-pressed yield-

Stirring Action

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ing cams on the press frame for engagement by the carriage rollers. Invented by Hans J. Luehrs, Westerly, R. I. Assigned to C. B. Cottrell & Sons Company, Westerly, R. I. Original application August 25, 1944. Divided and this application May 17, 1945. 2 claims.

Plate Making

During the six weeks covered by this report, no patents have been issued for this heading.

Printing Inks and Related Chemicals

2,423,185. MANUFACTURE OF COATED AND IMPREGNATED MATERIALS, including paper, textiles and wood. A mixture is formed of 1000 parts of water and 10 parts of salt resin made by the reaction of 1 mol of dicyanidiamide, 2 mols of guanylurea chloride and 4 mols of formalin. Material is coated or impregnated with this mixture and then soaped with a solution of 3 parts of olive oil soap in 1006 parts by weight of water. The product has a full soft touch and is fast to washing. For printing, zinc sulfide paste is added to form an ink. Invented by Wolfgang Gundel and Ernst Gotte, Dessau, Germany. Assigned by mesne assignments, to The Hydronapthene Corporation, Wilmington, Del. Application July 3, 1940. In Germany July 8, 1939. 15 claims.

2,423,555. PAPER COATING impervious to moisture and most oils comprises a viscous composition of chlorinated rubber, plasticizer, wax, resin and solvent. Such coatings may be applied to Kraft, ledger, text, bond and other papers, to wall paper, containers for chemicals, etc. A thin layer of the viscous composition is applied to a moving continuous web of paper while supporting the moving paper web on a resilient belt or blanket, and then passing the paper against a doctor under pressure against the paper and its support to form a continuous surface coating. Coating has a thickness from about 0.0001 to 0.0008 inch and a weight no greater than 30 lb. per ream of 3600 sq. ft. Invented by Clarence D. Ender, Wilmington, Del. Assigned to Hercules Powder Company, Wilmington, Del. Application April 24, 1944. 2 claims.

2,423,751. POLYMERIC FRACTIONS OF HEAT POLYMERIZED DRYING OIL are of value in the printing ink industry as vehicles possessing non-livering properties when used for dispersing reactive pigments. Fractions are separated by a method which comprises extracting the polymerized oil with progressively higher homologues of a saturated aliphatic primary alcohol, the alcohol and homologues having from three to six carbon atoms, and separating the respective extractions. Invented by Isidor M. Bernstein, Brooklyn, N. Y. Assigned, by mesne assignments, to H. D. Roosen Company Inc., Brooklyn, N. Y. Application August 29, 1944. 4 claims.

2,423,851. OXIDIZED OILS AS SOLVENTS IN PRINTING INKS, in oils for textile treatment, as wetting out agents, as detergents, and as plasticizers. Terpinolene is reacted with water and a gas containing free oxygen in an alkaline medium having a pH of 7.5 to 13. The water and free oxygen are substantially the sole sources of oxygen in the product. The resultant reaction mixture is then separated into a fraction containing a water-soluble product and a fraction containing a water-insoluble product. Invented by John E. Reese, Wilmington, Del. Assigned to Hercules Powder Company, Wilmington, Del. Application May 15, 1945. 8 claims.

2,424,066. DISAZO DYESTUFFS SUITABLE FOR PRINTING and dyeing cellulose fibers and animal fibers. In a typical example, 21.6 parts of 3:3'-dihydroxy-4:4'-diaminodiphenyl are tetrazotized by the addition of an aqueous solution of 13.8 parts of sodium nitrite. 49.3 parts of 1-amino-8-hydroxy-naphthalene-4-sulfonic acid are dissolved in 105 parts of water and 22 parts of caustic potash. The tetrazo compound is added and coupling carried out for 24 hours at 10-15° C., then for 36 hours at 20-25° C. Coupling mass is diluted with 700 parts of water, 42 parts of common salt are added and the dyestuff precipitated by adding 130 parts of 2% hydrochloric acid. Invented by Fritz Straub, Kaiseraugst, and Jakob Brassel and Peter Pieth, Basel, Switzerland. Assigned to Society of Chemical Industry in Basle, Basel, Switzerland. Application August 16, 1943. In Switzerland February 18, 1941. 12 claims.

2,424,284. PROCESS OF FIXING PIGMENTS ON TEXTILE MATERIALS

Our Neck is Out —

every time you check METAL COSTS

Lower yearly metal costs have been promised and delivered by Imperial ever since the company began back in 1912. For that reason, we say, "our neck is sticking out every time an Imperialized shop checks its metal costs"—our record is at stake. True, men, machines, methods and volume of business may make metal costs look high, but Imperial consistently delivers a type metal and metal service that costs less than others under equal conditions.

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Illustrated is the Model 18 Acraplate with 24"x20" platens. Acraplates are available in a complete range of standard sizes.

For fifteen years Lake Erie has played a leading part in the perfection of plastic and rubber molding in the plate-making field. Today more ACRAPLATES are in service in leading plants than all other makes of equipment combined.

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or films of cellulose acetate comprises applying to the fabric or film a water soluble acid of moderate strength and a solid acid such as tartaric by a padding operation. The fabric is dried to retain the acid and the pigment is applied in a printing paste, together with a soluble condensation product. Barium sulphate applied to materials in this way, produces a pleasant delustre effect. Gum tragacanth may be used as a thickener. Invented by Henry Charles Olpin, Sydney Alfred Gibson, and William Cyril McKnight, Spondon, near Derby, England. Assigned to British Celanese Limited, London, England. Application December 21, 1943. In Great Britain, February 22, 1943. 5 claims.

2,424,954. A HECTOGRAPHIC INK which maintains a desired color throughout the printing of a batch of sheets is made by a unique treatment of several dyes to cause an intimate mixture. An example of a dye mixture is: chrysoidine, ethyl green, crystal violet, and rhodamine 6G. These water-soluble dyes of different colors are put into solution and then rapidly precipitated out as crystals by evaporation while being agitated. The complex crystals thus produced have the several dye components present only in micro-crystalline form and the crystals are thereafter dissolved in a vehicle. Invented by Douglas A. Newman, Port Washington, N. Y. Assigned to Columbia Ribbon and Carbon Manufacturing Company, Inc., Glen Cove, N. Y. Application August 11, 1943. 7 claims.

BURNS IN QUICKLY

For a zinc that burns in quickly and etches fast and deep, use Register-Redibak and watch production jump.

IMPERIAL TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS INDUSTRY ONLY

PHILADELPHIA 34 **NEW YORK 7** **CHICAGO 50**

Imperial

2,425,023. SHELLAC COATING COMPOSITION is suitable as a binder for printing inks. It comprises one equivalent of shellac, less than one equivalent of a volatile or volatilizable alkali, a mixture of aliphatic alcohols, one of which is butyl alcohol, or other alcohol boiling above 100 degrees C., and a second one of which is an alcohol boiling below 100 degrees C. and which is in about the same proportions as the butyl alcohol and a water-insoluble but alcohol-soluble plasticizer, and water. The plasticizer may be castor oil. Invented by Henry Hall Bassford, Jr., Cranford, N. J. Assigned to U. S. Shellac Importers Association, Inc., New York, N. Y. Application May 25, 1943. 3 claims.

2,425,200. MODIFIED DRYING OILS which are said to be highly compatible with both natural and synthetic resins and of value in the manufacture of printing inks, enamels, etc. Drying speed and film forming characteristics of normally slower drying, isolated double bond, domestic oils are improved by treatment with activated reagents of the low molecular weight aliphatic acid anhydride class. Invented by Floyd G. Nessler, Rocky River, and Charles E. Penoyer, Garfield Heights, Ohio. Assigned to The Sherwin-Williams Company, Cleveland, Ohio. Application May 5, 1943. 12 claims.

Printing Presses and Equipment

2,423,112. BAG-PRINTING DEVICE is a hand-operated hinged press intended to obviate hand-stenciling methods used to label barracks bags, duffle bags, feed bags and the like. It includes a form-supporting bed with a platen movable relative to the form. Press frame has inner faces interfitting with and surrounding the outer faces of the platen to secure the bags to the platen in position to engage the form. Platen is engaged by an arm movable relative to the press to move it to engage the form and print impressions on the bag. Invented by Nicholas J. Pantazakos, United States Army, Westwood, N. J. Unassigned. Application May 26, 1944. 19 claims.

2,423,391. SCREEN PRINTING TABLE includes a screen top comprising a screen, a felt layer covering the screen and a layer of muslin covering the felt. A chamber immediately below the top and coextensive with it is open to the screen top. In the chamber a steam pipe loops back and forth horizontally extending from one end to the other. A blower at one of the table draws fresh air into the chamber where it is heated by the looped steam pipe and the heated air is forced out of the chamber through the screen top. Invented by John B. Kozloff, Brooklyn, N. Y. Unassigned. Application February 21, 1945. 1 claim.

2,423,565. POLYVINYL ACETAL RESIN COMPOSITIONS are particularly useful for printers' blankets or draw sheets where the coating comes in contact with type cleaning fluids. Composition of the patent comprises the reaction product of specified quantities of a polyvinyl butyral resin and butanol modified urea-formaldehyde resin. It is obtained by heating the reactants at a

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May 16, 1947

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(*signed*) Alan G. Kistler, *Foreman*
TIMES-LEADER-EVENING NEWS

"Victoria, B. C.
July 5, 1947

"You will be pleased to hear that we have found the STAR Linotype Thermostat very very satisfactory indeed, and are now placing our order No. 776 for five more. We find it has cut down maintenance considerably over the old style".

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temperature from 82-116° C. for at least one hour until coatings are non-adhesive under test. Product is also suitable for coating or impregnating cloth, paper, etc. Invented by Ernest A. Rodman, Newburgh, N. Y. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application September 24, 1942. 3 claims.

2,423,768. TRANSVERSE AIR NOZZLE FOR COATING FLEXIBLE WEBS of cloth, paper, Cellophane and the like. The leading lip of this so-called air brush or air doctor presents, to the web being treated, first a recess and then a curved or streamlined surface in the path of the air stream passing between the web and the leading lip of the air brush. Coating may be smoothed simultaneously on both sides of a web or on one side only. Invented by Lindsay O. Goff, Westbrook, Maine. Assigned to S. D. Warren Company, Boston, Mass. Application January 13, 1943. 7 claims.

2,424,170. PLATE CLAMPING MECHANISM for printing presses includes two plate clips, one sliding axially along the form cylinder and engaging the inner edge of the plate, and a second clip engaging the outer edge of the plate. A connecting rod extending from outside one end of the cylinder to the first clip is movably secured to the clip to adjust its axial position. A spring carried by the cylinder acts on the second clip to draw it toward the first one and clamp a plate between them. Fluid pressure actuated means are provided to withdraw the second clip for releasing a clamped plate. In variations of this mechanism the first clip is stationary and three clips are used instead of only two. Invented by William F. Huck, Forest Hills, N. Y. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application February 10, 1944. 19 claims.

2,424,732. PAPER SHEET VARNISHER AND PRINTING MACHINE APPARATUS protects the impression cylinder of printing presses or the varnish cylinder of varnishers against receiving an impression in the event a sheet is not fed or when an imperfect sheet is presented to the front guides of the machine. Defective sheets are shunted into a discard pile accompanied by a signal and the machine continues to operate through a cycle without a sheet. A releasable latch mechanism for holding the plate cylinders in position is tripped in response to the presentation of an imperfect sheet. Gripper opening cams are allowed to swing out of operative positions in response to actuation of the trip mechanism. Latch mechanism and cams are automatically restored to normal position after defective sheet is discarded. Invented by Elmer W. Belluche and Frank R. Belluche, Racine, Wis. Assigned to The Christensen Machine Company, Racine, Wis. Application November 30, 1942. 7 claims.

2,424,883, 2,424,884, and 2,424,885. PARAFORMALDEHYDE MODIFIED REACTION PRODUCTS OF DIISOCYANATES with linear polyester polyamide are useful in making printing blankets and oil resistant articles. Product is formed by mixing a diisocyanate-modified polymer with 2.5 to 15 parts of paraformaldehyde, per 100 parts of polymer, and heating the mixture at 100-150° C. for not more than one hour until the product exhibits increased resilience and softening point. All three patents are on the same general process, the second one using sulfur in place of paraformaldehyde, and the third one featuring the step which comprises effecting the compounding in the presence of 0.25 to 0.75 part per 100 parts of the diisocyanate modified polymer, of a basic material which will neutralize acid present during compounding. Invented by Bernard James Habgood, David Augustine Harper, and Reginald John William Reynolds, Blackley, Manchester, England. Assigned to Imperial Chemical Industries Limited, London, England. Application November 20, 1942. In Great Britain October 14, 1941. 13, 8 and 8 claims, respectively.

2,424,902. INKING MECHANISM for presses has a fountain roller which is mounted so it may be tilted into and out of contact with the ink roller. The rocker for tilting the fountain roller is adjustably connected so that the roller contacting position may be varied An eccentrically mounted shaft connected with the press-throw off has a boss on it for engaging an arm of the rocker. When shaft is rotated by the throw-off, the roller is dropped into its non-contacting position. Invented by Charles F. Root, Cleveland, Ohio. Assigned to The Chandler & Price Company, Cleveland, Ohio. Original application April 8, 1943. Divided and

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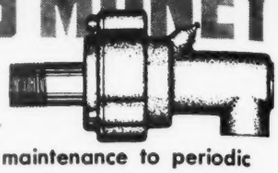

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this application January 13, 1944. 5 claims.

2,424,903. INKING MECHANISM of the preceding patent, No. 2,424,902, is improved by having the trucks which carry the ink rollers disposed on track extensions pivotally connected by hinges with the main track portions and capable of being independently vertically adjusted by means of set screws. By varying the adjustment of these screws the track extensions may be raised or lowered to obtain the desired degree of contact between the two rollers, thus varying the amount of ink transferred from the fountain roller to the inking roller and from the latter in turn to the inking disc. Invented by Charles F. Root, Cleveland, Ohio. Assigned to The Chandler & Price Company, Cleveland, Ohio. Application November 23, 1944. 12 claims.

2,425,167. PRINTING PRESS of the late news or like "non-stop" type comprises an impression cylinder assembly and a pair of type cylinders arranged at opposite sides thereof, the impression cylinder being movable into impression contact with either one or the other of the type cylinders. The impression cylinder assembly may consist of a single cylinder movable laterally into engagement with either type cylinder, or a pair of impression cylinders which are movable together so that when one is in engagement with one of the type cylinders, the other is out of contact with the other type cylinder. The shaft carrying each impression cylinder may be mounted in the front and rear press frame members in bearings which are movable through either a straight or arcuate path by means of eccentrics, in a plane generally parallel to, but offset from, a plane through the axis of the type cylinders. Preferably the type cylinders are independently rotatable by means of gearing from the impression cylinder shaft and means are provided for synchronizing the surface speed of the inoperative type cylinder with that of the impression cylinder assembly before the latter is moved into contact with the type cylinder. Invented by William Arnold Whitehead, Preston, England. Assigned to The Goss Printing Press Company, Chicago, Ill. Application June 11, 1943. In Great Britain July 2, 1942. 11 claims.

2,425,184. ROTARY PRESS has a former folder of conventional construction and seven double impression printing units in line with the folder and on the same level. Each double unit is standard, composed of a pair of printing couples, each couple consisting of a plate cylinder and an impression cylinder. The seven double units are arranged four at one side of the former folder and three at the opposite side. Four single impression units are provided which consist of a single plate cylinder cooperating with an impression cylinder. The four single units are arranged in line with the double units, being positioned above and between them but on the same floor. Certain of the printing couples are provided with gearing means from the press drive so that they are reversible, each single impression unit being reversible and one couple of each double unit being reversible. Invented by Charles Alonzo Harless, Oak Park, Ill. Assigned to The Goss Printing Press Company, Chicago, Ill. Application May 19, 1943. 1 claim.

2,425,218. ROTARY PRINTING PRESS is provided with a cylinder which may be adjusted, axially and circumferentially, for registration purposes. Cylinder is driven from a suitable drive shaft through gearing with a coupling between the shaft and driving means. Coupling consists of a collar having straight teeth at one end and helical teeth at the other end, a helical gear meshing with the helical teeth. A spur gear attached to the cylinder meshes with the straight teeth and may be moved axially on the collar to adjust the cylinder while it is being driven. Collar may be moved circumferentially manually for circumferential adjustment of the cylinder. Invented by Emory W. Worthington, Chicago, Ill. Assigned to The Goss Printing Press Company, Chicago, Ill. Application September 27, 1944. 7 claims.

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Printed Radio in Full Color

CAPT. W. G. H. FINCH, president of Finch Telecommunications, Inc., Passaic, N. J., announced recently a new method of facsimile radio reception in color.

Finch said the Colorfax machine, which he developed jointly with Dr. Laverne Philpott, the company's director of research, can transmit inexpensively in full colors from any one point to a multiplicity of receivers, pictures and text to be recorded permanently on any ordinary white paper.

Finch announced that with the machine, the ordinary home user of radio receivers will be able to make his own recordings in broad daylight on any type of suitable paper stock.

There is no limitation on color range, he said, and pictures are reproduced at the equivalent of 100 lines to the inch, comparable to photo-engraving screens of 100 lines and to the 65-line screen of regular newspaper color reproduction.

Finch said the pictures are directly visible as received, and do not have to be developed, or processed in any way.

He explained that the principle of this type of color facsimile embodies the direct application of several primary colors on paper, in a manner similar to the practice followed by an artist in producing color sketches.

In this case, the yellow, red, blue and black colors are utilized. A combination of one or more of these colors permits a wide range of intermediate colors.

Application of these colors to the paper is controlled by electric current transmitted in accordance with the primary colors into which the original image, or piece of copy is separated.

At the transmitter, an original color image which is to be transmitted is first automatically separated by optical means into several color separations. Each of these images is of a particular primary color, which, together, produce the color of the original image.

Each of these primary images is used to control electric current in accordance with the color on those images, and these signals are received at the recorder, where they in turn control the direct application of color on paper in their respective primary shades. Thus, Finch said, the recorded image is a replica, or facsimile of the original transmitted image.

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Griffin Goes to Mergenthaler Linotype Co.

Mergenthaler Linotype Co. announces changes in personnel for sales, advertising and trade relations as of November 1, when William H. Griffin, of San Francisco, becomes Director of Sales; Walter B. Patterson (now Director of Agencies) becomes Director of Advertising; and, as of December 1, Harry L. Gage (now Vice President in Charge of Sales) becomes Linotype Consultant on the Graphic Arts.

William H. Griffin goes to Mergenthaler Linotype Co. as Director of Sales.

Mr. Griffin, who has just completed presidency of the International Association of Printing House Craftsmen, has been senior partner in Griffin Brothers, who operate trade composition plants in San Francisco and Oakland and also a process plant for offset platemaking.

Born in Nashville, Tenn., Mr. Griffin early learned the printer's trade and

Harry L. Gage, appointed Linotype Consultant to the Mergenthaler Linotype Co.

Linotype operation. He later had executive experience in metropolitan newspapers and eventually owned and edited a community weekly in Oakland. In 1933, with his brother Earl, the trade plant in San Francisco was established.

Mr. Griffin is past president of the Craftsmen's Pacific Coast Society, and of the San Francisco and Oakland Clubs; a past member, Board of Directors of Employing Printers of San Francisco; Chairman, Industry Advisory Committee, San Francisco State College. He is married, has two daughters, and is bringing his family to New York, N. Y.

In addition to continuing the direction of Linotype advertising which has been Mr. Patterson's increasing activity, he will also continue as President of Canadian Linotype, Ltd., the Canadian sales and service organization.

For reasons of health, Mr. Gage is reducing his schedule of activities to maintain a consulting relationship with Linotype on industry trends and processes in the Graphic Arts. He plans to make his home at 16 River Road, Annisquam, Gloucester, Mass., with occasional field trips and continuing contacts with Linotype home offices at Brooklyn.

A. Stull Harris Dies

Alfred Stull Harris, one of the leaders in the Graphic Arts industry, died in Cleveland on August 22. The 56 year old president of the Harris-Seybold Co. had been ill for several months. Mr.

A. Stull Harris, president of Harris-Seybold, passed away recently.

Harris joined the Graphic Arts equipment firm as a draftsman in 1912. He was named vice president in charge of engineering for Harris-Seybold in 1923 and became president in 1944. During his career in the Graphic Arts, Mr. Harris was known for his ability to translate lithographers' requirements into equipment that filled their needs. In 1936 he was instrumental in bringing higher press speeds to American lithographers through the adaptation of the revolutionary H.T.B. stream feed to Harris presses.

Mr. Harris concerned himself not so much with the actual design of machinery as with advisory and consulting work toward facilitating construction and insuring the efficient operation of the press. Under the leadership of Mr. Harris the Harris-Seybold Co. recently installed a modern research laboratory devoted to lithography and other graphic arts processes. He was a staunch supporter of the Lithographic Technical Foundation and was a member of the Research Committee and the Board of Directors. The Harris Laboratory under Mr. Harris' leadership was always ready to cooperate with the Foundation Laboratory and other laboratories in the industry. Stull Harris liked people. Whether he was associating with the nation's lithographers or chatting with Harris-Seybold craftsmen in one of the company's plants, he was always on a cordial and friendly footing with everyone. He knew many of his fellow workers by their first names and took a keen interest in their jobs and personal welfare. He was never too busy to talk to an employee. Stull Harris will be missed by his many friends and colleagues. He and his associates carried out and enlarged upon the policies laid down by his father. Togethe their constant exertions in behalf of the industry have assisted in building lithography to its present place in the Graphic Arts.

Made Assistant Directors at Battelle

To assure that the full talents of its growing staff will continue to be used on each and every industrial problem, Battelle Institute has named six new assistant directors. The new assistant directors, all members of the Battelle staff, are Dr. Frank C. Croxton, Dr. Clarence H. Lorig, Dr. Howard W. Russell, Ralph A. Sherman, Clarence E. Sims, and John D. Sullivan.

According to Director Clyde Williams, the action represents the culminating step in the development of the unique plan of research organization under which Battelle operates. Under this plan, departmental lines are merely nominal, and each research problem that the Institute undertakes is a problem for joint attack by all qualified members of its staff. This fully coordinated method of research, in contrast to the strictly departmental method, is deemed to have been largely responsible for the phenomenal growth Battelle has made from a fledgling research institute in 1929 to its present position as one of the world's largest independent research foundations.

The new assistant directors will share with Director Williams and Dr. Oscar E. Harder, assistant director since 1930, in the technical direction of Battelle research. Under the Battelle plan, administrative matters are handled by the director and four assistants to the director. The assistant directors are the top coordinators of technology. In addition, a body of technical advisors, headed by Dr. Horace W. Gillett, chief technical advisor, provides specialized consultation and guidance on all research projects.

During the period beginning with World War II, the Institute has tripled in size, its staff growing from approximately 300 persons to its present 1000. Research expenditures this year are expected to exceed $4 million. The new assistant directors will expedite the flow of this large volume of research.

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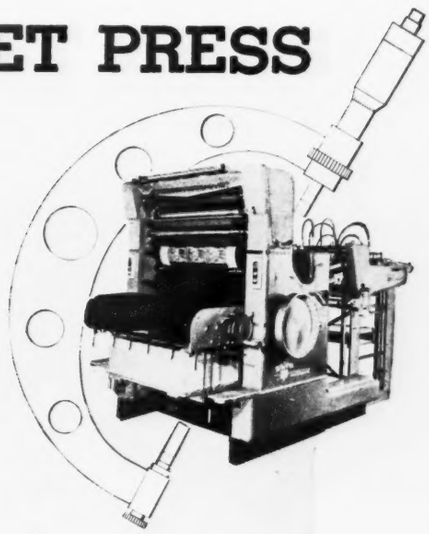

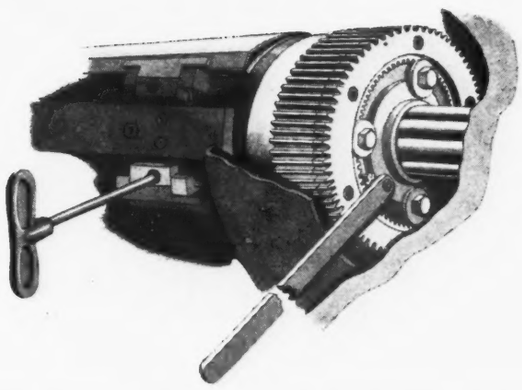

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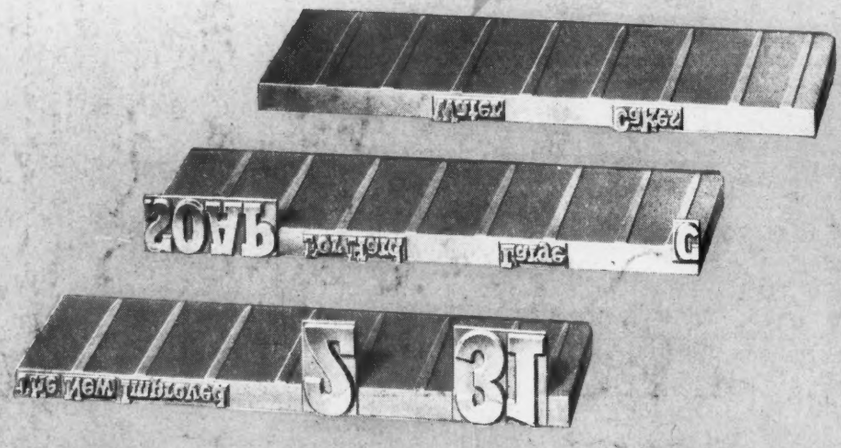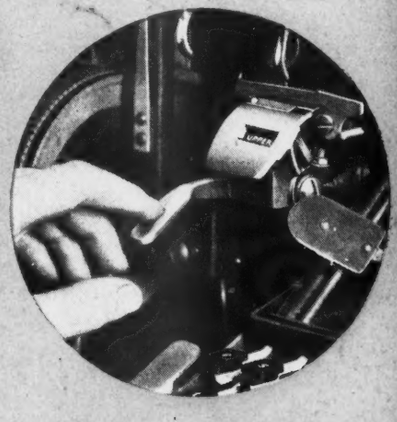
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